THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXVI. NEW YORK, SATURDAY, MARCH 17, 1900. NO. 11.

ORIGINAL ARTICLES.

THE SIGNIFICANCE OF EARACHE IN CHILDREN.[1]

BY T. H. HALSTED, M.D.,

OF SYRACUSE, N. Y.;

PROFESSOR OF LARYNGOLOGY AND OTOLOGY IN THE SYRACUSE UNIVERSITY MEDICAL COLLEGE; LARYNGOLOGIST AND OTOLOGIST TO ST. JOSEPH'S HOSPITAL AND THE WOMEN'S AND CHILDREN'S HOSPITAL.

THE ear, I presume, has been more deliberately neglected by the average physician than any other organ. This unfortunate prejudice against this delicate sense-organ is traditional—it has been handed down from generations of our medical ancestors and was born of ignorance. It is not so very long ago that the medical profession encouraged the laity to believe that nothing smaller than the elbow should ever enter the external auditory canal. It is common experience to-day to meet with patients who come with fear and trembling to consult about their deafness, and who, before submitting to an examination, insist upon an assurance that such examination shall at least do no harm, if it does no good. This fear of being made worse was a fear encouraged by the doctor of but a decade or two ago, who, himself unable to examine and diagnosticate the patient's ear affection, covered up his own lack of knowledge by instilling in the mind of the patient the idea that the ear was an organ which to be touched was but to be injured. Many doctors at this end of the nineteenth century still tell their patients, or, more correctly, the little patients' parents, to pay no attention to the occasional earache, to the evident impairment of hearing, but to leave it to time and to nature and the disease and the deafness will be outgrown. There may have been some excuse for such advice a half, or even a quarter of a century ago, but there is none for it to-day.

Earache is of two very distinct varieties. The one is a neuralgia, when it is best spoken of as otalgia, and in character resembling the pain of a neuralgia in other parts of the body; the other is the pain or ache that accompanies inflammation—a throbbing, beating, steady pain without much intermittence. The neuralgic earache is usually caused by some trouble or disease external to, or quite remote from, the ear itself. The pain may be constant, but usually is sharp and shooting with intermissions of entire cessation. Pressure upon the nerve or disease of the sheath of the inferior dental, for instance, may cause pain in the ear alone. As you enter, with a probe, a cavity in a carious or decayed inferior molar the patient claps his hand to the ear. It is evidently a case of toothache in the ear, comparable with the classical pain in the knee in hip-joint disease. In children old enough to answer intelligently and in adults, if with an acute pain in the ear, there is no deafness, no fulness in the ears, no tinnitus, no redness or bulging of the drum, we have to deal probably with a neuralgic earache, the cause lying either in the teeth, especially of the lower jaw, or some disease of the larynx, such as tubercular or malignant disease, or an acute inflammation of the tonsils, pharynx, or tongue, or malignant and syphilitic disease of these parts. Tumors of the brain or Gasserion ganglion, disease in any part of the fifth nerve, a trigeminal neuralgia, may all occasion otalgia. A beginning furuncle in the external auditory canal, causing much pain but neither deafness nor tinnitus, may be easily overlooked.

The belief that earache in children is ordinarily neuralgic is so prevalent among the laity and, unfortunately, also in the profession, that the statement can be made with positiveness that in children earache is usually a result of acute inflammation of the middle ear and only exceptionally is it neuralgic. I have operated for mastoid abscess upon a number of both children and adults, in whom the earache had been regarded as a neuralgia and treated as such, the patient having been allowed to suffer the tortures of the damned for days, weeks, and in several cases for months, when a correct diagnosis and proper treatment would have obviated not merely all this pain, but, much more important, have prevented a permanent impairment of the hearing or even in one case have saved the patient's life.

The earache of an acute otitis media in a child will vary with the intensity of the inflammation, the age and the temperament of the child, a comparatively slight inflammation and little pressure in the tympanic cavity of one child throwing the patient into paroxysms of screaming or almost into convulsions, while a great amount of pressure with bulging of the drum may in another child occasion only a sense of fulness and discomfort without much pain. The Eustachian tube of an infant or young child is much shorter than that of an older one or of an adult, so that suppuration in the middle ear in young children, because of the easy passage of the discharge, mucus or pus, into the nasopharynx, may be accompanied by comparatively little earache, and without much if any redness or bulging of the drum membrane, the drum being merely opaque or lusterless, and so partly account for the fact that acute otitis media is readily overlooked even by the most careful physicians.

[1] Read before the Medical Society of the State of New York, January 30, 1900.

Infants and small children do not locate the site of the pain in a very clear and satisfactory manner. The child may be simply restless, peevish, toss and roll the head a good deal, at times shrieking with pain either while awake or on waking from sleep. If carefully observed, however, the little sufferer will be seen to bore its head into the pillow on the affected side, try to raise its little fist toward the inflamed side of the head, or an older infant will rub the ear, indicating as best it knows how the seat of the trouble. Unfortunately, the little one's physician or nurse is not always observing and overlooks the fruitless efforts of the baby to make itself understood.

In children at the vault of the nasopharynx, and at, around, or even in the Eustachian orifices is a mass of lymphoid or tonsillar tissue. This tissue is exceedingly prone to acute and chronic inflammation of exactly the same kind as that of the faucial tonsils. A cold in the head in a child is commonly not an inflammation of the nasal mucous membrane but of this pharyngeal tonsil. If a child's throat be examined during an ordinary cold in the head it will usually be found that the nasopharynx is covered with a whitish, croupy exudate, exactly the same kind of an exudate we are familiar with in ordinary acute follicular tonsillitis. In measles, scarlet fever, and influenza colds, this pharyngeal tonsil is always involved. With this swollen mass of adenoids, inflamed and teeming with pathogenic micro-organisms, streptococci, staphylococci, or pneumococci, it is almost inevitable that the child's middle ears should be inflamed to a greater or less degree, and explains at once why children have so many more acute inflammations of the middle ear, so many more earaches than adults.

Remembering that the Eustachian tube, the cavity of the middle ear and mastoid form one continuous bony canal—a bony diverticulum from the nasopharynx—it is readily seen how the inflammation in even an ordinary cold in the head tends to extend to the middle ear; it is also seen how perfectly adapted the middle ear is for the harboring, for the incubating, for the growth and development of bacteria, and because of its magnificent blood and lymphatic supply, an ideal distributing center for bacteria or their toxin products.

The bony plate, the tegmen tympani, which separates the middle ear and cranial cavities, is often, even in adults, not much if at all thicker than tissue paper. In infants and small children it is still thinner, or may be absent, so that an abscess in the middle ear might perforate into the cranial cavity with less difficulty than through the drum. Cerebral irritation is exceedingly common in young children suffering from acute otitis media, and the actual extension of inflammation to the meninges, either through perforation or more commonly along the sheaths of the arteries, veins, or lymphatics, which extend from the middle ear to the brain through the squamo-petrosal sulcus, occurs so often that it has long been recognized, that the usual cause of meningitis in children is a suppurative inflammation of the middle ear, just as brain abscess in the adult is often a sequel of acute or chronic suppuration in the mastoid or middle ear. Without doubt some cases of fatal acute meningitis which many of us have seen could have been prevented and the life of the patient saved had the significance of the earache, which was the earliest symptom, been appreciated by the patient, by the parent, or by the doctor, such earache leading to an examination of the drum and to a proper treatment of the acute otitis media before an involvement of the meninges had taken place. The association in children and infants, of acute otitis media with the exanthemata, with cold in the head, and as a cause of acute meningitis has been well known.

Turning to other acute infantile diseases we find that that happens which should be expected from the anatomical peculiarities of the middle ear, especially with reference to its adaptability to the requirements of the favorable growth of bacteria. It is the experience of many physicians to have had a tentative diagnosis of pneumonia, of acute meningitis, even of typhoid fever, upset by the amelioration of all symptoms coincident with a discharge of pus from the ear. As before stated, in infants and small children, perforation of the drum does not occur with the same frequency that it does later in life. The pus finds its way more readily through the Eustachian tube into the nasopharynx, and then to the alimentary tract, or in inspiration the bacteria may be carried into the lower respiratory tract.

During the past two years much has been written, especially in Germany, upon the subject of unrecognized acute otitis media in infants and young children. The subject is one of great importance to the general practitioner because it is he, rather than the otologist, who is in a position to see these cases and it is all important that he recognize the fact that the middle ear is, during infancy, often the subject of purulent inflammation, complicating many other diseases, not simply the exanthemata, but other acute infectious and toxic diseases such as acute gastro-enteritis and bronchopneumonia. Hartman,[1] in 1894, called attention to the connection between acute otitis media and gastro-intestinal affections in infancy, stating that in the latter elevation in temperature and loss of weight should always demand an examination of the middle ears when it would generally be found that the tympanic cavities contained pus, and that with its evacuation through paracentesis of the drum, the temperature would drop, the disturbances in digestion cease, and the body weight increase. He regarded the gastro-enteritis as the result of resorption of the toxic poisons from the exudate in the tympanic cavity, rather than that the otitis media resulted from infection entering through the Eustachian tube during the act of vomiting. In a recent paper Hartman[2] reviews fully the subject of intestinal disturbances caused by otitis media, and reiterates the conclusions of his former paper, published five years ago.

In 1897, Ponfick[3] published the reports of one hundred consecutive autopsies on children under four years of age, dying of various diseases, non-infectious and infectious. The vast majority of them, during life, gave rise to no suspicion on the part of the attending physicians that the middle ears were at all involved, in fact but ten were known to have had middle-ear disease. Of these one hundred, six children died of non-infectious diseases, *viz.*, two of congenital heart disease, one of extensive burns, and three of non-infectious dermatitis. Of these six children, five were found to have had otitis media. The remaining ninety-four were supposed to have died, four of erysipelas and furunculosis, six of diphtheria, one of scarlet fever, eleven of pneumonia, nine of meningitis, thirty-five of gastro-enteritis, sixteen of chronic tuberculosis, three of congenital syphilis, and ten of acute otitis media of which two complicated bronchitis. Of these ninety-four deaths, eighty-six were found on autopsy to have had suppurative or catarrhal inflammation of the middle ears. Of the thirty-five cases of gastro-enteritis, thirty-three had otitis media; of the eleven pneumonias, ten had pus in the middle ear; of the nine cases of meningitis, eight had otitis media; of the remaining thirty-nine cases, thirty-five showed otitis media—most of them with pus in the tympanic cavities.

Had this table of one hundred post-mortems been made up of deaths due to scarlet fever, measles, diphtheria and typhoid fever, the discovery that the middle ear was involved in 91 per cent. would not have been so astounding, but that the table is made up of deaths due to diseases not supposed to be complicated by otitis media is of the utmost significance and immediately the question forces itself, was not, in all probability, the cause of death of a very large number due to the unsuspected, unlooked for, untreated suppuration in the middle ear?

During 1896 and 1897 Barth[4] examined one hundred and twenty-six children under three years of age, suffering from other diseases, and found one hundred and sixteen, or 92 per cent., to have otitis media of greater or less severity—10 per cent. having required a mastoid operation. He states that of six hundred children sick with other affections and examined with reference to their ears, 80 per cent. showed otitis media. Meltzer[5] has investigated fully the relationship that exists between otitis media and bronchopneumonia anl lobar pneumonia in children. He shows very conclusively that if the ears be examined during bronchopneumonia, it will be the exception to find them not involved, and this corresponds with what we should expect. He has, during the past fifteen years, observed a great many cases of lobar pneumonia in children in whom the earliest symptom of the pneumonia is a severe earache on the affected side. This earache occurs at the beginning of the lung inflammation, gradually disappearing during the first three or four days of the pneumonia. He has never seen pus come from the ear during these cases, and thinks the earache due, not to an otitis media, but rather to a sympathetic pain, a neuralgic pain, in a drum already the seat of a chronic inflammation. His explanation of the rarity of suppurative otitis media in lobar pneumonia in contradistinction to bronchial, is, that in the former, hyperleucocytosis acts as a derivative on the otitis media, tending even to arrest and dry up the discharge, mucus or pus, if it previously existed.

E. H. Pomeroy[6] has recently and forcibly emphasized the importance of the general practitioner and especially the pediatrist recognizing the frequency of otitis media in cases of gastro-enteritis and bronchopneumonia, and the necessity of examining the drums in all cases.

At the time of writing this paper there were in the children's wards of the Women's and Children's Hospital in Syracuse twenty-two children under three years of age. Eleven were under six months, the youngest being five days old, and the remaining eleven were between six months and three years. Many were born in the Hospital and remain for care only, being considered in good health. I have examined the drums of all of them finding the examination perfectly feasible excepting in one case, that of a child one month of age, in whom the external auditory canal was so narrow that a satisfactory view of the drums was not obtained. In the cases of a child of five days and of another of two weeks, the view was perfectly satisfactory. In many it was necessary to remove with cotton or a small, dull spoon the epithelial scales which interfered with inspection of the drum. As others have observed, children and infants make almost no objection to the examination of the ears with the speculum, once the auricle is taken hold of preparatory to introducing the speculum. Of the forty-four middle ears which these children presented, twenty were normal, twenty-four showed otitis media to a greater or less degree, five with perforation of the drum with pus, nineteen without perforation or pus in the auditory canal. Of these twenty-four inflamed middle ears, but four were suspected or known to have otitis media—all of these being suppurative. Five of the children had gastro-enteritis, two having pus in the external auditory canal, one a catarrhal otitis media and two normal as to the ears. The one case of acute bronchitis was complicated by purulent otitis media. Three cases of bone tuberculosis showed two normal drums, one perforated drum with discharging pus and three of otitis media without perforation. These examinations are too few in number to have much significance and are offered merely because they tend to confirm other and larger reports.

Recurrent attacks of earache in children mean the presence of adenoids in the nasopharynx. The adenoids may be large, causing nasal obstruction, or they may be very small and not interfere at all with breathing through the nose, but repeated attacks of earache, repeated gatherings in the ear, repeated attacks of deafness accompanying colds in the head mean that there is in the naso-

pharynx, in the neighborhood of the Eustachian orifices, some hypertrophied lymphoid tissue, large or small in amount, which is exceedingly prone to acute and subacute inflammation tending to extend to the middle ear. One attack of otitis media, catarrhal or suppurative, may be entirely recovered from without any loss of function, without any impairment of the hearing, but it is very doubtful whether several such attacks can take place and leave the ear in a normal condition both as to the present and the distant future. Each abscess in the ear means a perforation of the drum membrane, which may heal without leaving a visible scar or it may heal with a very large scar, or on the other hand it may not heal at all, but leave a perforation in the drum, exposing the middle ear with all its possibilities for ill for the remainder of life.

What is the final outcome with reference to the hearing in the case of these repeated earaches which occur during childhood? The great majority of persons, who in early adult or middle life awaken to the fact that their hearing is becoming impaired, are deaf or are surely becoming so because of a chronic catarrhal inflammation or sclerosis of the middle ear. I believe that in a large proportion of these cases the disease began in childhood when the patient suffered from adenoids, accompanied or not by large tonsils. I have traced back from early and middle adult life to childhood, by history obtained from the patient and by the indelible evidences remaining in the nasopharynx, in Rosenmüllers fossa and in the fauces, hundreds of cases bearing upon this statement. Let us assume for the sake of brevity and clearness a hypothetical case and follow the patient from his early childhood to middle life. At from three to five years of age, the patient develops adenoids, has repeated earaches, repeated tubal inflammations until a chronic otitis media, with deafness, increasing during colds, improving after their subsidence, becomes established. The adenoids probably cause nasal obstruction and consequent rarefaction of air in the nasophraynx and tympanic cavity. At about fifteen years of age, or at puberty, the adenoid growth begins to grow smaller through an increase of connective tissue, it becomes firmer and harder but smaller, and consequently lessens the nasal obstruction. At this same period, in the process of development, the nasopharynx becomes much larger, so that the adenoids, as a cause of mouth breathing become both actually and relatively less important. The patient now begins to breathe through the nose, the nasopharynx and tympanic cavities are better ventilated, the drum-head, which has been retracted, begins to assume a more normal position. The patient hears much better, has fewer colds in the head, earaches cease and he believes that he is outgrowing his ear trouble of childhood, as his physician predicted would be the case. This condition of improvement goes on for perhaps ten or fifteen years, when the patient again begins to have colds in the head, the nose becomes obstructed, not this time, however, because of adenoids, but because of a hypertrophic rhinitis. With these repeated colds in the head and with obstructed nasal breathing, the old, dormant, middle-ear disease, which had been quiescent for so many years, is revived and from this time on it proceeds upon its insidious and progressive course, the deafness increasing so imperceptibly that he is unaware of it until a buzzing or some form of tinnitus stirs him to a realization that there is something wrong with his ears and that his hearing is somewhat impaired. He is now thirty, forty or fifty years of age. He consults an otologist, who is compelled to tell him that his disease is essentially an incurable one, and that the most favorable prognosis is an amelioration of the condition, an improvement in the hearing through the benefit that follows the treatment and improvement of his hypertrophic rhinitis and nasal obstruction; but very often, too often, not a single hopeful word can honestly be said, either with reference to improvement in the hearing or arrest of the deafness. It is poor consolation to him to be told that there was a time, in childhood, when the disease could have been cured, or arrested, the hearing restored or deafness prevented, had its presence or its cause been recognized, had the warning of the recurrent attacks of earache and deafness been heeded, appreciated and properly treated.

In conclusion: (1) Earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. (2) Infants and young children may have suppuration in the middle ear without giving satisfactory evidence of pain, or without rupture of the drum-membrane. (3) In the absence of other known cause of pain, from which a child is evidently suffering, the first cause to be thought of should be acute otitis media, and this calls for an examination of the drum-membrane. (4) It has been shown by examination of the middle ear during life and post-mortem, that purulent otitis media is nearly always present in acute infectious diseases of the gastro-intestinal and respiratory tracts in young children, especially in gastro-enteritis and bronchopneumonia, to which diseases it probably stands in a causative relation. (5) The cause of death in many acute and chronic infectious diseases, in meningitis and in the exanthemata is the result of unrecognized and untreated abscess of the middle ear. (6) Repeated earaches in children are ordinarily but a sign of acute exacerbations of a chronic otitis media resulting from adenoids. (7) In adult life, so-called catarrhal or progressive deafness is often but a final stage of the otitis media which had its beginning in early childhood when it was due to adenoids and practically curable.

BIBLIOGRAPHY.

[1] Hartman, Deutsche med. Wochenschr., No. 26, 1894.
[2] Hartman, Archives of Otology, April, 1899.
[3] Ponfick, Berliner klin. Wochenschr., September 27, 1897.
[4] Barth, Archives of Otology, December, 1899.
[5] Meltzer, Phila. Med. Jour., May 5, 1899.
[6] Pomeroy, Boston, Med. and Surg. Reporter, January 18, 1900.

CASE OF PULMONARY TUBERCULOSIS SUCCESSFULLY TREATED BY DRAINAGE AND IODOFORM, WITH APPARENT RECOVERY.

BY ALEXANDER HUGH FERGUSON, M.D.,
OF CHICAGO, ILL.;
PROFESSOR OF SURGERY IN THE CHICAGO POST-GRADUATE MEDICAL SCHOOL.

S. G., twenty-seven years of age, a colored school-teacher, presented himself at my clinic at the Post-Graduate Hospital March 1, 1899, and stated that for a few weeks he had been losing strength, and that a swelling on his right chest was constantly increasing in size. The swelling, which was situated below the right clavicle, was first noticed two months previously, as a small, hard and painless lump. No attention was paid to it, and it gave but little inconvenience, save only a gradual limitation of a backward movement of the right arm, until now, at the time of examination, this action was entirely prohibited by the enormous size of the swelling. It extended from the clavicle to below the nipple, and from the sternum to the axilla. It was easy to recognize that the pectoralis major muscle was in front of it. *Fluctuation* was very distinct, and not a member of the class hesitated to make the diagnosis of abscess—most probably of a tuberculous nature, even before the examination was completed. A slight cough began six weeks previously, and the patient's strength began to decrease; his weight lessened; his appetite became poor; he was thirsty, and had night-sweats. He had then a temperature of 100° F., a pulse of 100, and respiration was 26 to the minute. The expansion on this side of the chest was less than that on the left side. Vocal fremitus was increased, and a dull percussion note could be detected over the lung, extending from the nipple across the chest towards the spine and about four inches wide. The vesicular murmur was absent over this area. The apex and base of the lung gave signs of functional activity, although not entirely normal. The left lung and the heart were normal. The liver and spleen were slightly enlarged and the feet were swollen. An examination of the blood and urine did not reveal any gross abnormal condition. No tubercle bacilli were found in the sputum.

It was evident that the case was complicated and a serious one. The abscess was assuredly not the most serious condition, but it was that within the chest wall. He had always enjoyed good health previously. His father died of intestinal obstruction; his mother died of consumption. One sister died of "sweating disease," as he termed it, and he has three sisters and a brother living and well.

First Operation.—On March 4th chloroform was given and the abscess sac exposed by a long incision running parallel with the fibers of the great pectoral muscle. The contents of the abscess were curdy, having the appearance of tubercle tissue breaking down. The sac was very carefully dissected out, being ever on the alert for the primary focus. It was found that the third rib near the sternum was diseased apparently with tuberculous osteitis. The carious rib was thoroughly curetted with a bone scoop, the wound closed, drained and dressed. The contents of the abscess were sterile—no germs, living or dead, could be found in it. The microscopical examination of the tissue removed (sac and granulation tissue from the rib), although no germs were found, revealed most clearly tuberculous characteristics. The extirpation of so large a sac is a major operation. The patient stood it fairly well. Hemostasis was complete. During the operation the temperature rose from 100 to 102° F; the pulse count from 98 to 120 per minute, and the respiration from 20 to 24. It was interesting to observe the behavior of the body temperature. The general aspect of the man was that of shock, but the temperature had risen two degrees, whereas to be consistent with shock it should have fallen. The cause of this interesting phenomenon occurring in certain cases during operation is still unknown. It probably indicates some complication.

The next day the patient had a temperature of 103.5° F., pulse 130, respiration 27 and had rested well during the night. He looked so well and felt so easy that I judged him to be suffering from sapremia, and by the third day the pulse and temperature would come down to what they were before the operation. In this I was mistaken; the rapid pulse, high temperature and frequent respiration continued to alarm us for three weeks with but slight remissions. The wound did not suppurate and closed kindly, its secretions remaining sterile. In the meantime the consolidated portion of lung opposite the fifth rib in front became more and more tender to the touch, and the patient could not stand percussion over it. I thought that most likely an abscess had developed in the lung, and decided to deal with it surgically.

Second Operation.—March 25th, with the hope of finding a connection between the third rib, that I had found diseased, and the intrathoracic complication, I began the operation by exposing and removing two inches of it. My efforts in finding the least trace of extension of disease from the rib inwards were futile, whereupon I cut through the pleura behind sufficiently to admit my index finger. Although the apex of the lung had decidedly receded from the pleura, it felt soft, smooth, resilient, crepitant, and it expanded during inspiration. With the full length of my finger in the pleural cavity, and extending it backward over the supposed abscess, what I felt was dictated and taken down by one of my assistants, *viz.*: "I feel a large, hard, unyielding mass, completely filling the chest wall opposite the fourth and fifth ribs. Its surface is rounded, smooth, and delicate adhesions which are exceedingly easily torn and bleed readily are felt, attaching it to the parietal pleura. It is too firm to be an abscess, and too soft for the usual feel of a sarcoma. It seems to me that I could thrust

my finger into its center. Let us explore it still further." After closing the wound in the pleura at this situation, I proceeded to remove two and a half inches of the fifth rib just in front of the mass within the chest. This being done, and cutting through the pleura here, I decided to pack the wound with iodoform gauze, after first suturing the surface of the mass to the parietal pleura, and then wait for a few days before going into it. It was ascertained by one of the interns by listening with a stethoscope that the base of the lung had not ceased performing its function during the operation. Within twenty-four hours the apex resumed its normal work and size.

Third Operation.—Being called from the city, I did not see the patient again for two weeks, during which time he continued to suffer, as before, from high fever, etc. I brought him before the class, and without anesthesia explored the diseased lung. An ordinary grooved director was cautiously pushed through the mass backward to the extent of four inches. Then a Kocher's director was inserted, and afterwards an artery forceps was used, after the method of Hilton, but not a drop of pus was found. With the view of thoroughly clearing up the diagnosis, I removed a substantial piece of the diseased lung and sent it to Professor Klebs' Post-Graduate Laboratory for examination. Being facilitated by the exploratory punctures and the space left by the removal of the tissue, I had no difficulty in introducing one dram of iodoform powder into the very center of what I now felt sure was a mass of tuberculous tissue. All this was done without pain or inconvenience to the patient. Iodoform gauze was firmly packed into the lung as a plug and the wound dressed.

Many as are the strange things that surprise us in our professional experiences, I shall never be loath to mention among them the marvelous change that occurred in this man's condition within the twelve hours after inserting the iodoform into the diseased lung. His temperature came down to 97° F., pulse to 80, respiration to 20, and he expressed himself as feeling better than he had for months. For three or four days thereafter, and also after the majority of treatments, he expectorated blood and particles of iodoform. Once or twice a week, for a period of five months and fourteen days, 1 dram of iodoform, either in the form of a powder or as an emulsion in glycerin, was introduced into the diseased portion of lung, a new part of it being selected each time, until the whole solid area had been perforated and medicated. This was done twenty-eight times in all, the dry powder being inserted twenty-four times and the emulsion only four times. When the emulsion was forced into the lung it caused great pain, furious coughing, and more or less shock; therefore, it was discontinued. The dry powder was inserted through the smallest size of Howard A. Kelly's cystoscopes, the distal end being made pointed. While the instrument was being passed through diseased solid lung tissue no pain whatever was felt, but just as soon as sound tissue was encroached upon, pain and uncontrollable coughing occurred. During the last three treatments no solid tissue could be felt, and they caused great distress, pain, and violent spasmodic coughing. Two of these I performed myself to find out if he could soon leave the hospital. At the end of three months the external wound was closing so rapidly that a short rubber drainage tube was inserted to allow of the treatment being continued. There was a little pyrexia, 99° F., and sometimes 100° F., up to July 8th, but after this the temperature remained normal. Under this date I find the following written on the history sheet: "Has had but a few night-sweats for three weeks, and these were slight; cough absent; appetite good; walks forty blocks a day; fever absent; weight 135 pounds, one pound more than he ever weighed, while on entering the hospital he weighed 119 pounds." It was very pleasing to observe from week to week the most excellent local and constitutional improvements that were being made toward recovery. On the 21st of July, Mr. W. C. Fuchs took two skiagraphs of him, with the instrument inserted into the lung its full length. At this time very little solid tissue was left which could plainly be seen in the radiograph. I am indebted to Drs. Cubbins and McCornack for the attention given to this patient, for notes made of it, and also for faithfully carrying out the treatment outlined. About the middle of April Dr. Jospeh M. Patton kindly examined this case at my clinic, and saw him again a few days ago.

Present Condition.—He performs all his functions as a man as well as he ever did. He has been working since he left the hospital. He weighs 134 pounds which is his normal weight. Since the cold weather has set in, an occasional hacking cough with no expectoration has developed, due, he thinks, to a cold. The condition of the lung as manifested by physical signs is, indeed, most surprising. It is true, he is scarred; the right chest wall is a little receding; slight flatness on gentle percussion is found, but not more than what is common with a thickened pleura. A friction sound, due to adhesion, can be heard, but over the very place where the dulness was greatest and consolidation thickest, a clear resonant percussion note is demonstrable and a beautiful vesicular murmur is present. I can find no evidence of tuberculosis in his lung.

The surgical treatment up to 1897 recommended for tuberculous phthisis is mentioned by Paget in his "Surgery of the Chest," as follows: (1) Injections into the lung tissue. (2) Operation for pyopneumothorax with perforated lung. (3) Operation for the arrest of profuse hemoptysis. (4) Resection of the diseased portion of the lung. (5) Incision of a tubercular cavity. He concludes this chapter by saying: "We have now reviewed the five methods of surgery which have at present been found possible for the treatment of tubercular phthisis; and we have found that two sets of cases where the surgeon may do most

good are those of fetid pyopneumothorax, and those of large tubercular cavity with septic absorption."

In 1898 Dr. J. B. Murphy of this city recommended and carried out *artificial pneumothorax*. In the November number of the *Lancet* of the same year Norman Porritt recommended and also carried out artificial reduction of thoracic space.

Both these methods are advised to be carried out early without waiting for a cavity to form. The one collapses the healthy lung around the tuberculous focus, thus giving it rest, while the other collapses the chest wall on to the lung by removal of sections of ribs in front and behind. The procedure carried out in this case, as far as I can ascertain, has not been hitherto done by any surgeon. The diseased portion of lung is freely exposed by resection of a rib or ribs, as the case may demand, and kept in view while the treatment of direct introduction of iodoform into every corner of the diseased area is carried out as long as it is necessary to effect a cure. Thus attacking the bacillus in its den with a drug that prohibits its growth and stimulates functional activity of the surrounding tissues to throw out a more vigorous granulation tissue to overpower the primary bacilli, this is highly scientific. We are aware that iodoform is the best producer of granulation tissue of which we know, and granulation tissue is Nature's great germicide. Every determination of blood directed to the diseased part by the traumatism produced by the large blunt instrument cannot but have a beneficial effect by virtue of the properties of the blood itself. It must also be remembered that the relief of tension in the solid mass and the drainage of bad blood serum from it have a salutary effect.

Notes of the Case Since December 6, 1899.—The patient was retained in the hospital for observation on account of the pyrexia he manifested the evening of December 6, 1899. In five days, December 11th, his temperature (by mouth) was 96° F., pulse 80, and respiration 19. At 1:30 P.M. of the same day, temperature 100° F., pulse 92, and respiration 20. On this day and at this time (1:30 P.M.) Professor Edwin Klebs injected him in the arm with tuberculosis serum. In three and a half hours thereafter (5 o'clock P.M.) his temperature was 105.4° F., pulse 128, and he coughed so frequently and violently that the respirations could not be counted. This high fever was preceded by coughing, nausea followed by vomiting, and a slight chill. At the end of twenty-four hours the temperature was still 105° F., pulse 138, and respiration 56. During the night he rested fairly well, coughed very frequently and his breathing was labored. Moist crepitant râles could be heard here and there over the right lung. The flatness on percussion increased, urine was scanty (eight ounces in twenty-four hours by catheterization). During the next twenty-four hours his condition was critical; he was delirious, and unconscious most of the time, and had involuntary evacuations of urine and feces; pulse varied from 138 to 160, respiration from 36 to 60, and temperature from 101 to 105° F. From this time he began to improve, so that on the morning of the fourth day his temperature was 99° F., pulse 98, and respiration about 22, but varied and he was able to sit up in bed while an examination of the back was made. There was consolidation of the upper lobe of the right lung, tubal breathing, etc. Over the middle lobe, exactly where the large local tuberculous mass was treated by the iodoform, there was resonance on percussion and a normal vesicular murmur present. This proves the benefit of the treatment that was carried out in this case. The left lung was free from physical signs of an abnormal condition, except along a limited strip in the free border toward the sternum. The sputum contained no tubercle bacilli.

The serum verified the diagnosis of tuberculosis, but the reaction was so furiously dangerous that it nearly killed the patient. Here was a man whose tuberculous right lung was apparently cured by iodoform; no active focus could be demonstrated, but he had developed some fever. On the subcutaneous injection of tubercular serum he was prostrated to death's door.

THE AFTER-TREATMENT OF FRACTURES AND DISLOCATIONS.

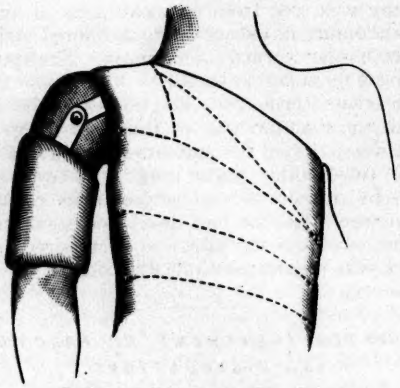
D. N. EISENDRATH, M.D.,
OF CHICAGO, ILL.
PROFESSOR OF SURGERY IN THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO; INSTRUCTOR OF SURGERY IN THE MEDICAL DEPARTMENT OF ILLINOIS STATE UNIVERSITY.

THE frequency with which fractures and dislocations occur both in the practise of the surgeon and the general practitioner and the functionally poor results obtained in many cases seem to justify a closer study of the causes of failure, as well as improved methods of treatment for the purpose of obtaining a more satisfactory result in every respect. Before proceeding further let me briefly summarize our present methods of treating fractures. After an immediate or later reduction of the displacement we apply either a temporary or permanent dressing. The former are represented by side, anterior, or posterior splints of wood, iron, cardboard, fiber, zinc, tin or wire, or the so-called molded splints of plaster-of-Paris, leather, felt, pasteboard, or gutta-percha. These temporary splints may serve as permanent dressings to which may be added silicate of soda, vertical extension, *e.g.*, of the femur in children (Schede) or horizontal extension (Buck's), or the double inclined plane.

In addition to these various forms of temporary or permanent dressings, treatment of fractures by massage has been used to some extent. By some surgeons the ability of massage to overcome swelling, stiffness of contiguous joints, and dryness and coldness of the surface, and atrophy of muscles, has been overrated, and has caused them to demand that we should treat every variety of

fracture by this method. It should, however, be limited to cases where the risk of displacement is slight, as in many fractures at the ankle, wrist and elbow, and of the fibula. It is often impossible to carry this out, as few surgeons can devote half an hour daily to the treatment of a fracture. The ambulatory treatment was strongly advocated by Bruns and others, especially for Pott's fracture and even for those of the femur and patella. The claim which has been made that there is a great saving in time and earning capacity is not borne out by recent statistics, especially

Fig. 1.



Splint applied to shoulder-joint.

those of Krause. There are in addition increased risks of displacement.

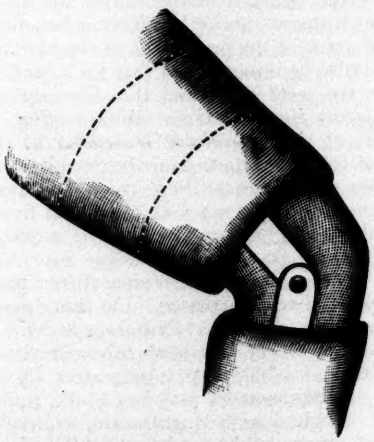
In the treatment of dislocations after the reduction the part is usually kept at rest for a period of two to three weeks, when light, passive motion is begun. Stiffness of the joints, especially those contiguous or distal to the seat of a fracture is a frequent sequel. It is most marked in the old and rheumatic or when sprain accompanies a fracture. The causes are injury of the muscles, edema and infiltration of the capsules and periarticular tissues. Very infrequently there is intra-articular effusion at the time of fracture with subsequent organization of the fibrinous masses and formation of adhesions. Change in the shape of the end of the bone from uncorrected displacement of a fragment or excessive formation of callus may also cause ankylosis. In dislocations we frequently have injury to the soft tissues and muscles around joints, in fact, the same pathological conditions favoring ankylosis as in fractures.

We have all had experiences of which the following is an example. A fracture of the elbow (supracondyloid) in which the arm was kept in a spline or cast for from four to six weeks showed, upon removing the dressing that there was atrophy of the muscles of the arm and forearm and complete limitation of motion, so that a change from the rectangular position in which the arm had been kept was accomplished with the greatest difficulty. For four weeks and sometimes as many months, repeated sittings, at which painful efforts at passive motion are made, had but little effect. The fracture itself will have united, there may be no displacement, but, alas, what is the functional result? This class of cases has interested me so much that I have made a special study of them.

In fractures contiguous to or into joints, we should pay as much attention to the function of the joint as to the fracture. We should not wait until forcible passive motion is necessary, for, as Stimson says, "this is harmful before the second month and even after that time it is far more likely to do harm than good." We create lacerations which require immediate immobilization in order to check inflammatory reaction and which in healing recreate the original or similar conditions. In fractures in which there is a possibility of the adjacent joint becoming ankylosed we should institute passive motion early, say after two weeks, very gently at first, being guided by the amount of inflammatory reaction which follows the manipulation. When the joint is accessible massage is of the greatest value.

Believing personally, however, that active motion by the patient himself is one of the best guides to the amount of exercise which such joints should have, I have applied the well-known mechanical principle of the hinge into casts, and after ten to fourteen days in such fractures, especially those of the elbow, shoulder and foot,

Fig. 2.



Splint applied to knee-joint.

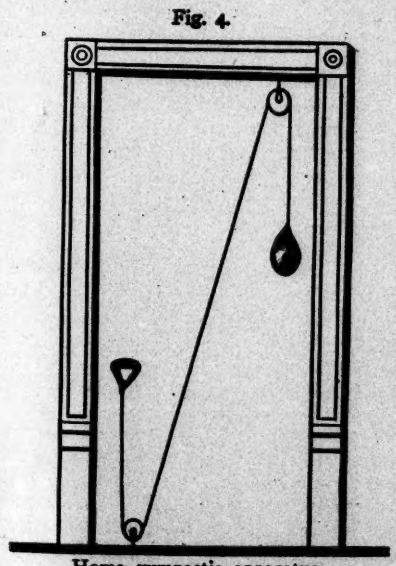
I have encouraged the patient to make voluntary movements. This mechanism can be easily obtained by having a carriage-smith construct out of a strip of iron three-quarters of an inch wide hinged splints, one each for the outer and inner side of the joint as in the elbow or foot, or an anterior and posterior one, as in the shoulder. These are cheap and can be made for each individual case at a nominal cost. At the end of ten days, in a fracture of the elbow, for instance, the temporary splint is taken off. The arm, with the joint left free, is wrapped up in sheet

wadding, a single layer of plaster-of-Paris is applied, and the splints are held in place while other layers are laid over them. We have thus a jointed cast, and after a few days we may encourage the patient to make active movements, which can be gradually increased, until at the end of the fourth or fifth week it is surprising how great the range of motion has become without any disturbance of callus formation or displacement. In dislocations and fractures, after removing the dressings, massage is an important factor in overcoming the tendency to ankylosis. If the means of the patient permit, I always refer him to a professional masseur who can devote half an hour to an hour to the case daily and in a short time accomplish wonders. Gymnastic apparatus are of the greatest assistance in overcoming ankylosis of the elbow and shoulder. The best for the purpose is the well-known Whitely exerciser or the inexpensive apparatus shown in Fig. 4, consisting of an ordinary pulley screwed into the door-frame, a piece of clothes-line, with handle, and a sack of salt or sand weighing from three to seven pounds. The sack of salt having been pulled from the floor by the patient, in falling causes the arm to be pulled down in a manner far excelling our manual manipulations. Massage, combined with faradic electricity, and hot packs or the hot air apparatus are of the greatest aid in overcoming the infiltration of the capsule and peri-articular tissues and the muscular atrophy, the so-called atrophy of inactivity, which invariably follows a fracture or dislocation. The massage, etc., may be beyond the reach of our poorer patients, but the apparatus which I have shown can be purchased for such a small sum as to be accessible to all. Our rule should be never to move a joint when it is still very painful and there are signs of reaction, but encourage as soon as possible active motion. If we follow these principles with proper variation for the individual case ankylosis after fractures and dislocations will be far less frequent, and the wage-earning capacity of our patients will be correspondingly increased.

Fig. 3.

Splint applied to ankle.

Fig. 4.



Home gymnastic apparatus.

INSTRUMENTS AND APPARATUS USED IN THE DIAGNOSIS AND TREATMENT OF GASTRIC AND INTESTINAL DISEASES.

By H. W. LINCOLN, M.D.,
OF BROOKLYN;
CLINICAL ASSISTANT IN THE DEPARTMENT OF DISEASES OF THE STOMACH IN THE POST-GRADUATE HOSPITAL.

First among the instruments to be discussed is the stomach-tube, of which there are several varieties, each of which has its admirers. There is the one closed at the end provided with two or three large apertures on the sides, the open tube of which the Ewald tube is a good example; and the open tube having rather a sharper edge to its end opening. It is essential, no matter what the physician's choice as to variety, that the instrument be soft and moderately flexible to insure against injury to the gastric mucous membrane. My own preference for general use is for the closed tube of Tiemann & Co. Its average length is about twenty-five inches, with a diameter less than three-eighths of an inch.

The uses of the stomach-tube as a means of diagnosis, are (1) for obtaining test-meals; (2) for determining fulness or emptiness of the stomach in the fasting condition, and (3) for obtaining small pieces of the gastric mucous membrane.

To introduce the tube three points must be observed. (1) When the point of the tube reaches the back of the tongue, command the patient to swallow, and take advantage of that instant to push the instrument on beyond the epiglottis. (2) Have the patient respire forcibly while the tube is in process of introduction, and, in new patients, all the time the tube is in the stomach. (3) Introduce it as rapidly as possible. If the gastric contents do not immediately appear in the

test bottle, blow gently through the tube, which may possibly have sucked in the mucous membrane or be clogged with thick mucus or large food-particles. This failing, move the tube gently back and forth; it may be in too far, or not far enough. If the former be the case the tube curls up on the greater curvature of the stomach, and leaves the openings above the level of its contents. To withdraw the tube, close the external end with the finger, and pull it out quickly but gently. You may recover a sufficient amount of the test-meal in the tube alone for qualitative testings.

Vaseline on the tube or cocaine to the throat are unnecessary in introducing the tube; neither is there any need of using the finger as a guide.

The Stomach Bucket.—Many patients object to the tube, and in many its passage is inadvisable. Here the bucket has its field. The instrument is ovoid, of silver, open at the top; about one inch long by half an inch in diameter. It is attached to a silk thread, which has a knot about sixteen inches from the bucket (the distance from the patient's teeth to the stomach). The thread is looped over the patient's ear to prevent its passage into the stomach with the bucket. Before using, the bucket should be moistened inside and out with warm water, otherwise it will return from the stomach containing nothing but air. To introduce it, have the patient open his mouth wide; use a finger of the left hand as a guide, and with the right place the bucket far back in the throat. Have the patient swallow two or three times, if necessary. Once past the epiglottis, the instrument finds its way easily to stomach. Allow it to remain there for from three to five minutes. Conversation with the patient while the bucket is on its way helps its progress. On withdrawal, the first resistance will be noticed at the cardiac orifice; by gentle traction this may be overcome. Strong resistance is observed at the larynx. At this stage the patient should swallow, when, by a simultaneous pull, the bucket will pass up and out with no difficulty. A pull at this point without the patient swallowing might do damage. Sufficient contents may be obtained for qualitative testing; and quantitative acidity may be approximately determined by the dilution method. The entire procedure is painless and less disagreeable than the passage of the tube.

Esophageal Probe.—Various forms of this instrument have been devised. The best is of whalebone, in two sections or lengths, which screw together. The distal end is threaded, and to it are screwed different-sized hard-rubber ovoids, the principle being identical with bulbous urethral bougies. Its introduction is similar to that of the tube, except that it is not out of place at times to lubricate the bulb. It is of use in determining a narrowing of the caliber of the esophagus and cardiac orifice, and also in determining the presence of growths in these regions.

Gastrodiaphane.—Electric light has been introduced into the stomach for purposes of transillumination by several investigators. The greatest success has, I think, been achieved by Einhorn, whose instrument may be described as follows: It consists of an ordinary soft stomach-tube, to which is attached at the distal end, by means of a silver collar, a small incandescent lamp, connected by wires running through the tube to a battery. To introduce it the tube is moistened as is an ordinary stomach-tube, and passed into the stomach in the same manner. When inside the light may be turned on. A dark room or closet is necessary for this method of examination, and the abdomen of the patient must be exposed. The size and location of the stomach may thus be brought into view, also any growth situated upon the anterior gastric wall will be presented as a dark area in the zone of light.

Intragastric Bag Fitted with Intestinal Intubator.—This apparatus consists of a very thin rubber bag, the exact size and shape of the human stomach. A tube running along the lesser curvatures of the bag acts as a conductor for the intestinal intubator, while a second tube plays the part of an artificial esophagus, entering the bag at the left of the first tube. The instrument is introduced with the bag collapsed and wound around the two tubes. When it reaches the stomach the bag is inflated with air, or may be filled with water. To obtain the intestinal juice, the intubating tube, which is *very thick in proportion to the caliber of its canal*, is passed on through the above-mentioned conductor and enters the duodenum, whence the desired specimen is to be obtained. This apparatus can, with difficulty, be used outside of a hospital.

Gastrograph.—This instrument records gastric peristalsis upon a strip of paper on the principle of a "stockticker." The essential part consists of a hollow, metallic ball about five-eighths of an inch in diameter, made of two hemispheres screwed together. Inside this hollow sphere is a ball connected with the upper hemisphere by a non-conductor, so that it is insulated from it. This ball is covered with small metal spikes, radiating from its center toward the inside of the sphere, *but not touching it.* The apparatus is completed by a minute platinum sphere, which lies between the inner surface of the hollow sphere and the bristled ball. It is unattached and its every motion completes an electric circuit, which records as above stated. The hollow sphere is easily swallowed aided, if need be, by a drink of water. I believe that a stomach found to be empty in the morning, when the patient has had a sufficient meal the previous evening, certifies comparatively normal motility.

Gastroscope.—This is not a new instrument. It operates on the same lines as the cystoscope and has a broad field in the future, although many find objections to its use at present. It is, of course, straight and necessitates dorsal decubitus with the head of the patient dropped. Even then it is not easy to manage, and its use is exceedingly disagreeable to the patient. Naturally all portions of the gastric mucosa cannot be exam-

ined. Its chief indication is in differentiating and determining early growths, provided they lie within its field of detection.

X-Rays.—This method is available for mapping out the size and location of the stomach. The method is to insufflate the stomach with bismuth, which is impermeable to the rays. A metallic capsule swallowed by the patient may be followed on its course, tracing the position of the intestinal tract by means of the X-ray apparatus.

Photography.—Intragastric photography, which was employed as long ago as ten years in Germany, has again come to the fore. The trouble with it is that the minute size of the plate detracts from its possible value.

Having mentioned the best-known instruments for diagnostic purposes, I will now speak of the question of treatment. Here, the tube again holds first place as a lavage apparatus. The simplest form in which it may be used is to attach a glass funnel, holding a pint or quart, to about four feet of three-eighths-inch rubber tubing, and connect this by a glass tube to an ordinary stomach tube, either open or closed. After the stomach-tube is introduced, as for obtaining a test-meal, attach it to the supply tubing. Lower and fill the funnel, raise it and continue pouring in water or the solution until the first *slight* sensation of fulness in the epigastrium is indicated by the patient's countenance; then lower it at once, and allow the stomach to empty itself. Repeat this operation until the return flow is clear.

In my office I use the following apparatus: A graduated supply reservoir holding two gallons is suspended in the same manner as Valentine's irrigator, having the advantage of being able to regulate the pressure of the supply-flow. The supply-tube is attached to the upper arm of the three-eighths-inch glass tube. The stomach-tube is attached to the single arm, and the waste-tube to the lower arm. Hence, by means of stop- or pinch-cocks, one can keep up a nearly continuous current of a desired pressure, and yet have both hands comparatively free, which is of advantage with an inexperienced patient. It is advisable always to have a waste-jar of the same capacity as the supply reservoir. The indications for the use of this apparatus are (1) removal of abnormal amount of mucus; (2) removal of stagnated foods; (3) stimulation of gastric glands; (4) happy laxative effect; (5) introduction of antiseptic and antifermentative solutions.

Intragastric Spray.—This is constructed upon the same plan as the ordinary throat spray. It consists of a stomach-tube fitted at the end with a spray-tip of hard rubber, and having running through it the small tube conducting the medicated fluid. This is attached to an atomizer supplied with two bulbs which give it a continuous spray. The indications for its use are (1) erosions; (2) achylia gastrica; (3) hyperchlorhydria.

Intragastric Electrode.—This is a small ovoid rubber capsule, perforated and containing a copper or brass electrode, to which is attached a wire to connect with the battery. The wire is enveloped in fine rubber tubing. About one-half a pint of water is introduced into the empty stomach, the electrode is then swallowed in the manner as is the bucket, except that the patient may aid its progress by drinking water, the latter being necessary to equally distribute the electricity. The circuit is closed by a flat abdominal electrode, or sponges may be used for this purpose. The galvanic or faradic currents may be used and with good results in (1) erosions; (2) achylia gastrica; (3) gastric atony; (4) hyperchlorhydria.

Gyromele.—This consists of a stomach-tube containing a flexible cable, to the distal end of which is attached a sponge covering a spiral spring. This sponge may be drawn into, or protruded from, the end of the stomach-tube. At the proximal end of the tube and cable is attached a "hand-piece," which makes it possible to very rapidly rotate the sponge in the stomach. The method of introduction is as for other instruments. The flexibility of the cable enables the revolving sponge to reach the different parts of the stomach. The indications for its use are (1) to clean off accumulated mucus; (2) to stimulate the mucosa; (3) to obtain cultures for bacteriological examination.

To F. B. Turck, who introduced the above instrument, belongs the credit for an apparatus constructed with the idea of alternately distending and contracting the walls of the stomach. The operation is termed by him "pneumatic gymnastics." The action is brought about by regulated air pressure. The instrument consists of two parallel attached rubber tubes of unequal caliber; the smaller and shorter one reaches only to the cardiac orifice, the larger and longer to the greater curvature. An air-tank or bulb is attached to one tube, a manometer for regulating the pressure to the other. As a rule the larger tube is used for the "inlet," although in more severe cases the smaller one carries in the air. Air may be drawn through a heated coil, thus using vapor, and here the *entire* mucous membrane derives the benefit of heat and moisture. In subjects with loosely closing gullet or relax pylorus, an intragastric bag is employed, the effect being practically the same as when the air is directly applied, the air acting also as a protector to an over sensitive membrane. Besides the happy effect upon the gastric musculature, both circulation and secretion are markedly benefited.

Powder Blower.—The latest intragastric instrument of which I am informed is the powder blower devised by Einhorn less than twelve months ago. It consists of a piece of rubber tubing not too soft and about twenty-eight inches long. At one end is attached an atomizer-bulb; the other end is fitted with a threaded, hard rubber tip, to which may be screwed the perforated capsules which contain the drug. They are of three sizes according to the amount of medication

desired. A small spoon to fill the capsules accompanies the outfit. The method of use is to fill the capsule, attach it to the tubing and introduce it in the same way as the spray-tube. When it is in the stomach the hand-bulb is forcibly compressed a few times, and on examining with an X-ray apparatus the powder (bismuth) will be found equally diffused over the gastric mucous membrane. If the pharynx contains much mucus, it is well to smear a very little vaseline over the perforations, in order to guard against their being occluded by the above mucus. Good results with this instrument have been obtained in (1) gastric ulcer; (2) hemorrhage; (3) erosions; (4) gastralgia, and (5) in X-ray work as above stated.

Each of the above-described instruments has its field in the diagnosis and treatment of gastric and intestinal diseases. Many, however, of those paying special attention to this branch of medicine, as, for example, Leube, who is one of the most successful gastrologists, depend largely for therapeutic results upon the stomach-tube and lavage apparatus. There is, however, no question, but that the spray, electrode, and powder blower are productive of some of the very best results.

113 Hancock Street, Brooklyn, N. Y.

CLINICAL MEMORANDUM.

TYMPANOMASTOIDITIS.

BY EMDON FRITZ, M.D.,
OF MANCHESTER, N. H.

TYMPANOMASTOIDITIS, as the name implies, is an inflammatory process which involves the tympanic cavity and the mastoid portion of the temporal bone. In comparatively few cases of inflammation in the tympanum is the mastoid invaded, or, if so, the symptoms produced are not of that degree of severity which warrant a diagnosis of mastoiditis. Implication of these bony cells, however, in a suppurative inflammation constitutes so serious a pathological condition that its possibility should always be kept in mind in treating infective diseases of the middle ear. Primary mastoiditis, due to traumatism, syphilis, tuberculosis, etc., will not now be considered. It is not improbable that in some cases where a diagnosis of this affection has been made, there had been at some previous time an inflammation in the tympanum involving the mastoid, and that the morbid process then originated had remained latent, until severe exposure, or some other cause, proved sufficient to awaken active inflammation.

In the class of cases now under consideration there is, primarily, either an acute otitis media, or a chronic suppurative inflammation of the tympanic cavity, which extends to the mastoid antrum and adjacent cells. Remembering the close anatomical relations between these cavities, it is surprising that the antrum ever escapes infection, when there is suppuration in the drum. The peculiar formation of the tympanum, in certain cases, and the arrangement of the mucous folds in the vault of this cavity are probably factors in determining the limits of the inflammatory process.

Acute non-suppurative otitis media is only important in its relation to mastoid complication as being an early stage of suppurative inflammation. Not until the imflammatory process has progressed to pus formation is there liability of serious implication of the mastoid. Acute inflammation in the tympanum, then, should receive prompt and efficient treatment, not merely for the relief of immediate symptoms and the restoration of function, but with a view to preventing a grave pathological condition which not infrequently leads to a fatal termination. Those cases of acute otitis media which develop in the course of some infectious diseases, such as scarlet fever, epidemic influenza, pneumonia, typhoid fever, tuberculosis, and syphilis, are generally purulent from the outset, and are attended with special danger of mastoid complication. Very often in these cases the site of primary infection is in the vault of the tympanic cavity where the reduplications of the mucous membrane and the large proportion of connective tissue are conditions most favorable to suppurative inflammation. The lower part of the tympanum may not be involved in this affection. In the early stage the folds of mucous membrane may be so congested that their increased size shuts off communication between the vault and that part of the tympanic cavity below the short process of the malleus, or, in certain cases, the formation of the parts may be such that inflammatory products find no passage from the vault downward into the lower cavity. The progressive accumulation of fluid in the vault increases the pressure and the gradually yielding membrana flaccida bulges outward into the auditory canal, sometimes completely overhanging the membrane below. If at this stage rupture occurs and free drainage is thus afforded, or if timely surgical interference secures the same result, and careful treatment follows, mastoid or intracranial involvement will probably be averted.

Chronic suppurative inflammation of the middle ear often follows the acute suppurative process. It is occasionally a manifestation of syphilis or tuberculosis. Whatever its origin, a chronic otorrhea should be regarded as a constant menace because of the possibility of infection of the adjacent parts within the cranial cavity, either directly or by way of the mastoid. Septic meningitis, sinus thrombosis, epidural and cerebral abscess, any of these intracranial complications may have their origin in neglected chronic suppurative diseases of the middle ear.

The causes, then, of tympanomastoiditis are primarily those which give rise to acute inflammation in the tympanic cavity, and chief of these is extension of a catarrhal inflammation from the nose and nasopharynx. Forcing fluid into the middle ear through the Eustachian tube in the improper use of the nasal douche, or by the worse

practice of "sniffing" salt water and other solutions into the nasal passages is a fruitful source of middle ear inflammation. Infectious diseases as causes of acute otitis media have already been referred to. Among predisposing conditions adenoid vegetations occupy a conspicuous place. It has been estimated that more than half the pathological conditions met with in the tympanum have their origin in hypertrophy of the pharyngeal tonsil.

The most notable symptom indicative of mastoid involvement is deep-seated, persistent, dull pain, always worse at night, and, as a rule, limited to the area immediately behind the auricle. Sometimes the tip of the mastoid process will seem to be the most painful point. Very seldom patients conplain of pain in the temporal region. Tenderness on pressure is an important symptom; usually it is greatest directly over the antrum, but the tip of the process will, in exceptional instances, be found to be the most sensitive. Care must be exercised in eliciting this symptom to so direct the pressure that the auricle will not be disturbed, otherwise inflammation in the meatus may be the source of the tenderness which is attributed to the mastoid. If the thumb is placed close to the auricle directly over the antrum and pressure made backward and inward there need be no doubt on this point. Some patients seem abnormally sensitive about the ears, hence it is always well to compare the two sides. The thermometer affords little aid in diagnosis. The temperature seldom runs high, in fact, a normal temperature may coexist with extensive disease in the mastoid, especially in connection with chronic otitis media. Children, of course, show a higher range of temperature than adults. Swelling behind the ear is not a common sign of mastoiditis except in young patients. The cessation of discharge from the ear in connection with the onset of symptoms referable to the mastoid is an important diagnostic sign. The most reliable objective symptom indicative of mastoid involvement is the swelling or bulging inward of the upper and posterior wall of the bony portion of the meatus close to the membrana tympani. Clinical experience proves that before the periosteum at this point is pushed off by pressure from within, the antrum has been invaded. When this symptom and deep-seated tenderness over the mastoid are both found, a diagnosis of mastoiditis is fully warranted. It is not to be understood from this statement that without both these signs inflammation of the mastoid cannot exist, but, finding both, the diagnosis is certain. The following cases illustrate the salient points in diagnosis and treatment:

Case I.—A robust young man, twenty-two years of age, when first seen was suffering intensely with pain in the mastoid region, which had followed what was considered a simple earache, of a few days' duration. There was a scanty mucopurulent discharge. On examination it was found impossible to introduce the smallest speculum because of unusual edema of the auditory canal. There was pronounced tenderness over the mastoid, most marked directly over the antrum. His face bore the expression of extreme suffering. He had not been able to sleep for forty-eight hours, the pain being worse as night approached. It was useless to attempt to incise the drum membrane for it could not be seen. Examination of the other ear demonstrated the fact that he naturally had an unusually small external meatus and moderate edema was sufficient to nearly occlude it. The aural ice-bag was applied over the mastoid and a brisk saline administered. Ten grains of phenacetine were ordered to be given at bed-time, the dose to be repeated during the night if necessary. Diet to be liquid, patient to be kept perfectly quiet. He did not obtain any sleep; during the night the pain was rather less severe; tenderness over the mastoid not appreciably changed; the tumefaction in the canal seemed slightly lessened; discharge about the same as the day before; bowels had moved freely; patient seemed dull and apathetic. The ice-bag was continued and phenacetine ordered as before. Preparations were made to operate next morning if he showed no greater improvement at that time. He slept about two hours during the second night and the pain and tenderness were considerably less in the morning. Ice-bag was continued during the day and he slept several hours. From this time he made an uneventful and rapid recovery.

Case II.—*A* man forty years of age, of previous good health, had recently suffered a severe attack of influenza. While convalescing he was seized with pain in the right ear. I saw him four days later, when he complained of severe pain, deafness and distressing tinnitus in the affected ear. The drum membrane was much congested, especially above the short process where it projected slightly into the canal. Pain or tenderness referable to the mastoid region was absent. An incision was made through Shrapnell's membrane, from a point behind the short process, upward and through the cellular tissue and fold of mucous membrane of the vault, and the knife was then carried outward through the superior margin of the membrane and along the upper wall of the canal about a quarter of an inch. Frequent irrigation with warm bichloride of mercury solution (1 to 5000) was ordered, and in two days I found him free from pain and with a normal temperature. There was a mucopurulent discharge from the ear and he was instructed to come to my office daily for treatment while continuing the irrigation in the intervals at home. I saw no more of him for four days, when he returned complaining of pain, which I found was due to inefficient cleansing of the canal and consequent lack of drainage. A week later he returned with the statement that for two nights he had been able to sleep but little because of pain behind his ear. The discharge had practically ceased. He complained of nausea and dizziness. There was marked tenderness over the antrum and slight edema of the tissues behind the ear. He attrib-

uted his present condition to the fact that three days previously, being lightly clad, he had driven a team all day in the cold. He was sent to the hospital for the night, and finding his condition worse next morning, notwithstanding the application of the ice-bag and the use of bromides and a saline purge, I decided on an immediate operation for mastoiditis. With antiseptic precautions the usual incision was made immediately behind the auricle, and after elevating the periosteum and retracting the soft parts the cortex of the mastoid was entirely removed with gouge and chisel. Proceeding through the bony structure beneath, as the antrum was approached, there was appreciable congestion and softening, and a small quantity of pus welled up in the blood when the gouge broke into this cavity. All granulation tissue having been curetted away, bichloride of mercury solution was syringed through the antrum into the tympanic cavity, some of it finding an exit through the opening in the drum membrane. The auditory canal and the wound were loosely packed with iodoform gauze and the ordinary aseptic dressing applied. The patient made a most rapid recovery without an untoward symptom.

Case III.—A young woman of twenty-five, never strong, debilitated from overwork, contracted a severe cold followed by a sore throat and in a few days her right ear began to ache. As a child she had been subject to recurring attacks of earache, usually followed by a discharge. For years her hearing had been impaired. I saw her on the second day of the present attack when she complained of pain in the ear and deafness, which was the more annoying because the ear now affected had, until this time, been the better one. Examination revealed moderate congestion of the drum membrane, most marked in the lower half. There was no bulging. She was sent to bed, and a saline cathartic prescribed, after the effect of which one-fourth grain of morphine was to be given. An attempt was made to use the artificial leech in front of the tragus, but as the patient showed signs of swooning only a little blood was drawn. Dry heat was applied by means of the hot water bag. Next day she sent a message that she was better. Instructions were given to keep her quiet and continue liquid nourishment. I did not see her until the following evening when I was told that pain had returned the night before and that she had slept very little. Her temperature was now 101.5° F. The drum membrane was deeply congested and bulging slightly near the posterior periphery. With antiseptic precautions a free incision was made in the most prominent part. Bleeding was encouraged by warm antiseptic irrigation which was repeated at intervals to keep the canal and opening into the drum free. Phenacetine was prescibed in five-grain doses every half hour until three were taken, if necessary, for the relief of pain and restlessness. During the following week her condition was variable. The discharge from the ear, never copious, gradually diminished, but when she became tired, in the after part of each day, the pain would return and she would only sleep under the influence of drugs. Her general condition was bad. Efforts were made to stimulate her appetite and to secure rest by excluding sympathizing friends from her room. She seemed to be gaining some when I was unexpectedly called away and did not see her again for ten days. I then found her suffering continuous pain in and behind the ear. She had not slept, except for brief periods, for several days and nights. The mastoid was very sensitive to pressure over its entire area. Otoscopic examination revealed a swelling or bulging inward of the superoposterior wall of the bony portion of the auditory canal from the membrana flaccida outward. Her temperature was 102° F., pulse 130. She was sent to the hospital immediately and an operation was done the next day. As soon as the cortex of the mastoid was removed, the bone beneath was found to be soft and congested. Having reached the antrum, in using a sharp spoon to remove softened tissue in its vicinity, there was a sudden gush of venous blood which was renewed whenever pressure was removed. The wound was tightly plugged with sterilized gauze, and a firm compress of the same material applied, the operation necessarily ceasing at this point. There was very little subsequent bleeding. The temperature and pulse gradually declined, and she had a good night's rest. The dressing was not removed until the fifth day, after which the wound was cleansed daily and loosely packed. It granulated rather slowly, but the patient made a good recovery and was discharged four weeks after the date of operation.

These cases have been selected because each one fairly represents a certain type. For the purposes of this paper I have thought it better not to report exceptional clinical experiences. More complicated cases, however interesting in themselves, do not as well serve the purpose of illustrating essential points in diagnosis and treatment. In Case I, by prompt measures mastoid inflammation was aborted in the congestive stage. In Case II the site of primary infection was in the attic of the tympanum, and but for severe exposure mastoiditis would have been averted by the means adopted. The subsequent history is typical of extension of acute suppurative inflammation from the drum to the mastoid. Case III began as an acute non-suppurative otitis media. The conditions were such that the disease progressed to the suppurative stage with subsequent implication of the mastoid. The wounding of the lateral sinus during the operation demonstrates the possibility of this accident while keeping rigidly within what are perfectly safe limits in the vast majority of cases. It happens in quite a percentage of operations but does not necessarily interfere with their success, if properly managed.

Application for Otalgia.—Politzer recommends morphine ointment, vesicatories or galvanism, the positive pole to the ear and negative to the neck.

MEDICAL PROGRESS.

Puerperal Infection.—According to A. M. Cartledge (*Obstetrics*, Feb., 1900) the infection atrium of a lacerated cervix is by far the most frequent site of the implantation of septic germs in puerperal infection. The staphylococcus tends to localize with abscess formation, and may be easily overcome by cleansing and drainage; but the streptococcus spreads rapidly by the lymphatics, and soon produces a general septic condition. Fortunately, however, this often spares the tubes and ovaries. In most of the fatal cases death takes place before the formation of abscesses. The indications are early curettage, irrigation, and drainage, and if these measures are not successful, one must, as a last resort, perform vaginal hysterectomy.

Modified Inguinal Colotomy.—R. C. Bailey (*Brit. Med. Jour.*, Feb. 24, 1900) presents a successful modification of the ordinary inguinal colotomy. A two-inch incision is made perpendicular to a line from the umbilicus to the anterior superior spine of ilium at the junction of its outer and middle thirds. The sigmoid loop is then pulled up, its proximal limb sutured all round into the external oblique muscle. A second incision down to the external oblique aponeurosis, parallel to the first and about two inches nearer Poupart's ligament is then made, and the two wounds connected by blunt dissection. The bowel is now pulled down to the second incision and sutured firmly, and the skin wound of the first incision closed. The bowel can be opened according to indications. A light pressure pad may be worn over the subcutaneous portion of bowel to obtain perfect control over it.

Rheumatoid Arthritis.—B. C. Loveland (*N. Y. Med. Jour.*, March 3, 1900) describes the ordinary symptoms and deformities of rheumatoid arthritis, drawing attention to the partial luxation of the phalangeal joints and the characteristic ulnar deflection of the fingers. He sums up the treatment which he has found successful in many cases under dietary, hygienic, including hydrotherapeutic, and medicinal. By dietetic means the patient's blood, urine and digestive ability should be improved as much as possible. Meats should be used once or twice per day. Green vegetables should be used freely. The amount of water to be drunk should not be less than three quarts in twenty-four hours, and tea and coffee should be forbidden. Sweets and acid fruits should be avoided. Under hygienic methods, he suggest moderate exercise, massage, Swedish movements, electricity, packing, sweating, and cool tonic baths. The medicines most useful are the alkalies, most prominent among which are salicylate of sodium and iodide of potassium. The former, when combined with benzoate of sodium, five grains each, given in a glass of water three times a day, may be continued for as long a time as necessary. Where disorganization of the joints has not occurred, a perfect cure, not necessarily a permanent one, will oftentimes result.

Regeneration of Male Urethra.—G. Ingianni (*Deut. Zeit. f. Chir.*, vol. 54, p. 227) has proved by numerous experiments that the male urethra can be reproduced within a reasonable limit. If there is a failure of the normal urethra for a considerable distance, either as the result of injuries, or by reason of operation, for example, amputation for carcinoma, the remaining cavernous and epithelial tissues will grow to make good the defect. A catheter was kept in place to insure the patulence of the new canal, and along it the blood vessels of the cavernous tissue sprouted, while the mucous membrane of the urethra grew outward along the catheter, first in a single layer of epithelial cells, but afterward in many layers. The growth of the cavernous tissue attained its maximum in thirty days, but ceased entirely in sixty days. It was not due to inflammation, but was stopped early if the latter was present. No regeneration of muscular tissue was observed.

Scarlatinous Sore Throat.—Cultures from the throats of over 300 patients with scarlet fever and scarlatinous sore throat have been examined by W. J. Class (*Jour. Am. Med. Assoc.*, Feb. 24, 1900) who reports the results obtained. Of this number 212 were cases of scarlet fever and 88 were cases of angina without any skin lesion, or at least only a perceptible trace. The microorganism previously described by him as the specific scarlet fever germ was found in the primary throat cultures of all 300 cases. In 80 cases the different germs composing the throat cultures were isolated and the "diplococcus scarlatinæ" obtained in pure culture in each. This diplococcus is always present, but in greater numbers when the culture is taken from a scarlet fever throat on the first or second day of the disease. As showing the connection between scarlatinous anginas, or throat lesions identical with those found in typical scarlet fever but without the eruption and scarlet fever, the writer reports three cases in detail in which other evidence, in addition to the presence of the same germ in each, confirms the relationship. In a number of experiments with pure cultures it was found that the blood from a person, who had had scarlet fever, had an inhibitory action on the growth of the diplococcus. Four mice were also used for experimental purposes. Two of the mice received each a subcutaneous injection of five minims of blood, taken from a person who had recently recovered from scarlet fever. All four mice were then inoculated, each with five minims of a solution of a virulent culture of the "diplococcus scarlatinæ." The two mice which had not received the blood inoculation died within eighteen hours, while of the two which had been injected with the blood one lived forty and the other seventy-two hours. The writer's reasons for believing that his "diplococcus scarlatinæ" is the cause of scarlet fever are: (1) The germ is invariably present in the throat secretions, blood

and scales of a patient having scarlatina, and it is a separate and distinct organism not heretofore described; (2) it has been proven to be a pathogenic micro-organism, killing mice, when injected in minute quantities, in from less than one to twenty-four hours according to its virulency; (3) it produces, in swine, a disease the macroscopic lesions of which closely resemble those seen in scarlet fever as it occurs in the human subject; (4) the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth; (5) the subcutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis; (6) the experiment quoted in this paper apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal against the invasion of the germ.

Treatment of Typhoid.—During the past few months much has been written about the uselessness of milk diet during the course of typhoid fever, many reports being made of cases receiving solids throughout the disease as routine treatment. C. E. Page (*N. Y. Med. Jour.*, March 3, 1900) argues strongly, however, for an almost complete restriction from even milk diet, believing that the digestive system is unable to assimilate even that amount of food, as a rule, and that by increasing fermentative processes leads to tympanites, diarrhea and autointoxication. He claims that there is no danger of starving a fever patient and that forced feeding is very harmful. He allows large quantities of cool soft water to be drunk, from eighty to one hundred ounces in twenty-four hours, and besides this uses hydrotherapeutic procedures of various kinds. When large quantities of cool water are drunk he finds the invaluable cold bath treatment less often needed and frequently succeeds in allaying disagreeable symptoms and in lowering the temperature by the use of the "damp bandage." This consists of towels wrung dry from cold water, frequently changed and covered by dry towels. Among other valuable means of relieving symptoms he mentions the full cold-water enema as a "nutritive enema," pouring of pitcherfuls of cold water over the patient's head, the narrow cold compresses over the spine, cold compress, massage for the chilly symptoms when the temperature is high, and sponge-bathing. He lays great stress on the value of hydrotherapy in typhoid and believes that when thoroughly and intelligently used the indications for drugs are greatly decreased and the mortality markedly lessened.

Bacteriotherapy of Ulcer of Leg.—In spite of the large number of methods in vogue for the treatment of this affection, Ivan Honl of Prague (*Wiener klin. Rundsch.*, Feb. 4, 1900) describes his own with which he has had a large amount of success. The cases treated numbered 100, all of them carefully picked out of a large mass of cases for their severity. The basis of the treatment is in the application of substances obtained by extraction from the body of the *bacillus pyocyaneus* to the ulcer. The writer does not mean to assume that these ulcers are necessarily due to the germs in all cases, but they are nevertheless responsible for the chronicity and many of the complications of the affection. The cause of the failure of the many kinds of antiseptic applications used may be said to be due to the fact that these germs are not reached by the antiseptics in question, but lie hidden under the scabs and scales of the skin. In all cases which were treated by the extractions derived from the pyocyaneus a remarkable cure was obtained. The method of preparing this pyocyaneus-protein is as follows: The fluid nutrient cultures of the germ have upon their surface a fairly firm skin, a greenish or yellow-green coloration of the fluid also being observed. This culture is prepared by the Buchner method for the extraction of the protein. After successive fractional sterilization, there is obtained a dark-green, slightly alkaline, badly smelling fluid which easily loses its transparency. Its action on the healthy body is practically nil. This fluid is used in the treatment of the chronic ulcers. The patient is to lie down and from time to time bathe the diseased extremity in lukewarm water. The protein is applied twice daily by means of absorbent gauze soaked in the fluid. This is held in place by the proper dressing and the leg allowed to rest. In the 100 cases in which his treatment was used, all were healed definitely and absolutely; no other therapeutic methods were used. There has existed an idea that the protein substances are identical with the toxic bacterial products, but this view, Honl holds, is entirely erroneous. The only effect noticeable after application of large quantities of the protein is a slight swelling at the point of application, due to the presence of large numbers of leucocytes; no constitutional effect whatever follows. The effect of the toxin on the ulcer is evident within twenty-four hours. The secretion of the ulcerating surface markedly diminishes and the new epithelial surface soon makes its appearance. From this stage on the healing process is rapidly consummated and the ulcer is cured.

Santonin in Epilepsy.—After citing the ills of surgical treatment for certain epilepsies, bromide treatment for other epilepsies, with the attendant acne of the skin and degeneration of the mind produced by this method, G. F. Lydston (*Therap. Gazette*, Feb. 15, 1900) offers as a substitute for this class of drugs a remedy quite as efficient as a palliative and perhaps more so as a curative measure. This substitute is santonin. The author disclaims priority in its use, but says that he has used it in the treatment of epilepsy for nearly twenty years, and as yet has never seen it mentioned by any other author. His attention was first directed to the value of santonin in spasmodic affections of children, in whom he has seen it given indiscriminately for spasms whether due to "worms" or not and with whom it was uniformly successful. As a result of his long expe-

rience with the drug he has proven to his own satisfaction (1) upon the average, epileptic patients show better results under santonin than under the bromides; (2) santonin acts well in cases in which the bromides for one reason or another are not at all tolerated; (3) santonin gives distinctly beneficial results where the bromides fail altogether; (4) santonin is free from injurious effects which cannot be said of the bromides. Thus, there is no resulting melancholia, mental hebetude, profound nervous and circulatory depression and disfiguring eruptions. Whatever disagreeable effects santonin may have are not severe, as a rule, and are transitory. If santonin is given, as the text-books on materia medica prescribe, only disappointment can result. Lydston begins in the adult with a dose of from two to five grains. As its taste is not disagreeable he gives it uncombined. The dose is then gradually increased up to the point of tolerance. This he finds to be in many patients as high as twenty grains thrice daily for some weeks. As a rule, the dose is gradually increased to fifteen grains three times a day or possibly four times. The peculiar twitchings about the mouth said to be characteristic of santonin have not occurred in the adult in his experience. The most important clinical feature of the use of the drug is the yellow coloration of the urine accompanied by painful micturition and varying irritability of the kidney. This shows at least that caution in the use of santonin should be used. Idiosyncrasy must be guarded against. In some cases the combined use of bromides and santonin may be desired. A large dose of the bromide is then given at bedtime. The alternate use of santonin and bromides is often of great service.

Schott Treatment of Cardiac Disease.—N. Neesen (*N. Y. Med. Jour.*, March 10, 1900) describes the methods of treatment which are pursued at Nauheim in order that compensation for cardiac lesions may be induced without the aid of drugs. The treatment consists principally of baths and exercises, so regulated that they tend to strengthen the heart's action, having an effect very similar to that of digitalis. The systole becomes stronger and sharper and the diastole longer. In cases of bradycardia, however, the pulse-rate is increased. The baths have all gradations of strength from the weakest (one per cent. of salt) to the strongest (the flowing carbonic-acid baths). The exercises are really resistance movements adapted to the weakest or the strongest patients and given by experienced operators. These are similar in theory and effect to the long used hill-climbing methods for causing hypertrophy of the heart. Professor Schott explains the effect of the baths by supposing that the salt and carbonic acid in the water stimulate the terminal nerve-filaments in the skin, the impulse being carried to the nerve-centers and resulting in an inhibition of the circulatory nerve apparatus. Baths given too long or of too great strength may have a marked weakening effect and should be avoided. It is claimed that all valvular lesions and myocarditis cases may be benefited, but aortic stenosis and insufficiency and initial insufficiency are the ones which are best treated by these methods.

Hemisystole.—Clinical and experimental evidence has led many observers to speak of the occasional absence of synchronism on part of the contractions of one ventricle as compared with the other and the term hemisystole has been applied to this condition. O. Frank and O. Voit (*Deutsch, Arch. f. klin. Med.*, Bd. 65, Hft. 5 and 6) as a result of improved experiments of their own doubt if such a phenomenon ever occurs. Bent catheters were inserted into both ventricles of the hearts of living rabbits and dogs in curare narcosis. Other catheters were introduced into the carotid artery and all instruments connected with manometers which allowed of the registration of the curves. After some of the animals had been partially asphyxiated and others poisoned with helleborein the curves were compared, but no material differences were noticed between the time of the contractions of right and left ventricles. Certain minor aberrations could easily find their explanation in the valvular insufficiency which was present, owing to the abnormal conditions the animals were under.

Lumbar Puncture in Chronic Hydrocephalus.—A. Graber (*Münch. med. Woch.*, Feb. 20, 1900) has seen a cure follow the systematic use of lumbar puncture in one case of chronic hydrocephalus, and a slight, but persistent, improvement in a second. He also noticed that whenever the pressure of the contained fluid was allowed to fall below 100 mm., marked temporal headache and even clonic convulsion were the result. The fluctuations in the level of the fluid during crying or strong expiration could also be well observed. The latter may be ascribed to the stasis of the blood in the veins with expiration and its easier flow back to the heart with inspiration. The fluid was perfectly clear except in a few cases where pure blood was drawn; this, most likely, was due to injury of the subdural and pial veins.

Operation for Fractured Spine.—R. Abbe (*Med. Record*, March 3, 1900) says that operation in cases of fractured spine presents little danger to the patient and causes sufficient improvement to justify the procedure. This improvement may not consist in restored motor power, but in relief from symptoms of persistent meningeal irritation, relief from girdle pains and muscular twitchings, and in an improved vasomotor condition of paralyzed parts. This operation is as logical as that for depressed fracture of the skull. His method of laminectomy which is simple, comparatively bloodless and efficient, is as follows: Cocaine anesthesia preferred; a six-inch incision is made just to one side of the spinous processes and is carried down to the laminæ, between the spinous processes and muscle; the tips of the spinous processes with the interspinous ligament unbroken are separated by cutting pliers; the

muscles on each side are dissected away from the laminæ which, with the bases of the spines, are removed as freely as necessary with rongeur forceps. The immediate signs and symptoms of fracture paraplegia give fairly accurate data for prognosis. If loss of sensation and motion and knee-jerk is instantaneous and complete, the outlook for recovery is almost hopeless. Partial loss of these functions renders a large degree of recovery probable, the cause in such cases being mostly hemorrhagic. Return of motion in cases of complete paraplegia does not always go on to perfect restoration. Wrist-drop or dragging of the foot may persist. In cervical fracture it is usually the fifth vertebral body involved, and this leaves only the diaphragm as a respiratory muscle, innervated by the portion of the phrenic derived from the third and fourth cervical nerves. These cases within a few days develop pulmonary edema and hypostatic pneumonia. Intestinal fermentation with febrile disturbance also frequently occurs in these high fractures. Regeneration of pulpified cord is impossible. Restored function is due to absorption of blood and inflammatory exudate relieving the pressure. Persistent bone-pressure at the site of injury causes increased cord-degeneration and therefore justifies operation. Laminectomy should be done early, and is less painful before meningitis occurs. A radiograph will determine if bony pressure exists.

Resection of Intestine.—The interesting and important question, How much intestine may be resected with safety? has been answered by O. Kukula (*Arch. für klin. Chir.*, vol. 60, p. 887). He has collected the notes of forty published and unpublished cases in which more than a meter of small intestine was resected, or a considerable portion of large intestine, usually a third or more. The amount of small intestine resected varied from 3 feet 3 inches, to twelve feet. The patient who lost the largest amount did not survive, but one who lost 11 feet of small intestine, mostly ileum, did survive and a year later was in perfect health. Chemical tests made to determine his digestive powers showed that they did not in any way fall short of the needs of his body. In thirty-one cases the resection was of small intestine chiefly. Nine of the patients so operated upon died, a mortality of 29 per cent. As no less than seventeen of the resections were done for gangrene, and several of the patients either had peritonitis or were otherwise in bad condition at operation, this mortality is not very high. It was certainly not due to the length of the intestine resected, for of the fourteen patients in whom the resection amounted to more than five feet, only two died, one in collapse and the other of starvation three weeks after the operation. In the case of the latter patient the ends of the intestine were not brought together, as ought always to be done, but a fecal fistula was left.

Six of the nine patients from whom a considerable part of the large intestine was removed died. Four of the six were septic at operation. Analogy, experiments upon animals, and the results of operations on men, have led Kukula to the conclusion that if a patient is in good condition, and the technical difficulties of the operation are not too great, any amount of the large intestine may be removed without risk of permanent damage. He is unable to say just how much of the small intestine may be removed with safety. Animals sustain without future trouble a loss of three-quarters or even more of the small intestine. Certainly in man a half may be removed if necessary. As the length of the small intestine is not known and as it varies much in different individuals, the only safe rule is for the surgeon to estimate the length of the portion which he expects to leave, as well as of that which he expects to remove, before he begins his resection. If he leaves as much as he removes, he need have no fear that the patient will die of starvation. The capacity for assimilation of the portion of small intestine remaining seems to be increased after these large resections, and, further, the large intestine takes on a part of the functions of the small. The well-being of the patient can also be improved by allowing him to take easily digestible food at rather shorter intervals than was the custom before operation.

Acute Pancreatitis.—A case of pancreatic inflammation with unusual symptoms is reported by H. Doerfler (*Münch. med. Woch.*, Feb. 20,) 1900). The patient, after an indigestible meal, experienced the most intense lumbar pain which radiated to both thighs and rendered all motion impossible. Several days later fever, rapid pulse, dyspnea and cyanosis developed. The gastric symptoms were only slight, no tenderness was present over the abdomen, but constipation was absolute. It was only when a high percentage of sugar was detected in the urine that the diagnosis could be made. The post-mortem examination showed the pancreas to be the seat of an intense hemorrhagic infiltration. A peculiar condition was seen in the large intestine; the ascending and transverse colon appeared enormously distended, while the descending portion was perfectly empty and flaccid, just as if there had been some obstruction in the gut. This phenomenon the author explains by pressure of the swollen pancreas on certain nerve-plexses which supply the upper colon, thus leading to its paralysis.

Iron in Anemia.—Much has been written of late in regard to the comparative values of organic and inorganic iron, and numerous preparations are being pushed on the market claiming to be of a most absorbable nature and yet entirely uninjurious to the digestive tract. G. M. Linthicum (*N. Y. Med. Jour.*, March 10, 1900) reviews briefly the physiological experiments and the clinical effects which prove indisputably that iron in some form is the essential and the specific in the treatment of anemia, and he believes that inorganic iron is the most efficacious. A desir-

able preparation of iron must meet, however, several requirements. It must be insoluble when administered so as not to injure the teeth; it should not nauseate nor disturb digestion, for the proper food nutrition is the first and most important consideration; it should not be astringent but rather a laxative, and, finally, should be absorbable with the least possible effort on the part of the tissues. These requirements he has found are happily met by a phosphated iron which is insoluble in water as well as in the hydrochloric acid of the stomach. It is suspended in a menstruum, with glycerin preservatives, slightly aromatized and forming a milk-white liquid. The dissolving agent is a tablet containing sodium phosphate, which is taken after the milk-like liquid, causing the formation of a soluble bibasic sodium and iron phosphate which is in its nascent state more readily absorbable.

Bacillus Typhosus Causing Cystitis.—Careful bacteriological examinations combined with the improved methods of differentiating the bacillus typhosus from other similar bacilli have led to the discovery of this germ in many of the organs of a typhoid patient and in the various complicating lesions. The urine has frequently been found to contain these bacilli and a complicating cystitis often has, no doubt, for its germ origin the bacillus of Eberth. A unique case has been reported by T. R. Brown (*Med. Record*, March 10, 1900), in which a cystitis, due to the typhoid bacillus, was no doubt inoculated by catheterization. The case was operated on for a large myomatous uterus and may have received some trauma of the bladder. The urine examination previous to operation showed it to be normal. Catheterization was necessary and the recovery was uneventful until the ninth day, when a severe cystitis developed. Strict aseptic precautions were taken to obtain a specimen of urine, which was found to contain a large number of bacilli which corresponded to all the morphological and biological characteristics of the bacillus typhosus, and gave a typical Widal reaction.

The patient had typhoid fever thirty-five years previously without any subsequent secondary symptoms, and it is very improbable that the germs could have lain dormant in the meantime. Urotropin, five grains three times per day, seemed to have a marked effect in cleaning up this case.

Pneumonia and Tuberculosis.—It is oftentimes found that cases of apparently lobar pneumonia tend to run a protracted course and finally develop unmistakable signs of a tuberculous pneumonia. R. W. Philip (*Practitioner*, Feb., 1900) has published the results of his observations on the relationship of the two conditions after a most valuable experience. He believes that the supervention of a lobar or croupous pneumonia during the course of pulmonary tuberculosis is by no means uncommon. This clinical fact may be observed often enough, but it must be distinguished from a simple exacerbation of a chronic tuberculous inflammation. Further, he has frequently found at autopsy of persons dying of lobar pneumonia the lesions of a tuberculous inflammation in various degrees of activity. Sometimes it would appear clinically that the course of the pneumonia is undisturbed by the tuberculous condition. In other instances it appears to run its course unusually quickly and simply. Walshe says: "Some of the most marked cases of rapid resolution I have met with were in phthisical patients." If the tuberculous pneumonia is far advanced, lobar pneumonia is most serious but it frequently occurs that the tuberculous process is not at all aggravated by the presence of the lobar pneumonia. With reference to the point whether pneumonia may determine the establishment of pulmonary tuberculosis an analysis of a thousand cases showed that in only 0.5 per cent. did there seem traceable a close sequence of the tuberculosis or croupous pneumonia. Other observers give similar figures. Where such a relation appears to exist it must be remembered that the acute condition may have supervened in an already tuberculous lung. In many of the cases of delayed resolution it is probable that the condition which exists is not tuberculous, but an instance of that class of cases in which there is a growth of connective tissue from the first combined with the lobar pneumonia. Examples of this have been described by a number of observers. Again, it must be borne in mind that pulmonary tuberculosis is occasionally ushered in by acute symptoms and signs which may be interpreted as lobal pneumonia.

An Easy Method of Reducing Shoulder and Hip Dislocations.—L. A. Stimson (*Med. Record*, March 3, 1900) for forward dislocations of the shoulder cuts a hole through the canvas about eighteen inches from the head of a cot. The dislocated extremity is passed through this hole, a ten-pound sand-bag is attached to the wrist after the cot is sufficiently elevated, and the patient lies comfortably on the cot until the joint is reduced by the tiring out of the muscles, which occurs usually within six minutes. (This is a modified application of the old method of traction with the arm abducted to a right angle.) In dorsal dislocations of the hip-joint the patient lies prone on a table with the thighs overhanging. The sound limb is supported in extension by an assistant. The other thigh hangs perpendicularly and the foot is raised by the operator until the knee is flexed to a right angle. The thigh is gently swayed from side to side, when reduction often occurs. If necessary, a sand-bag may be placed just behind the knee to assist in the traction on the hip-joint. This method succeeds in four-fifths of the cases.

Phenacetin and Antifebrin on the Blood.—With spectrophotometric methods, A. Denning (*Deutsch. Arch. f. klin. Med.*, Bd. 65, vols. 5 and 6) was able to show that an amount of antifebrin corresponding to 0.685 gm. per kilogram of body weight caused the presence of methhemoglobin in the blood of dogs after thirty minutes to three

hours. The maximum amount was reached after four to six hours. With 60-62 per cent. hemoglobin oxidized, one dog showed complete absence of reflexes, irregular pulse and respiration and a high degree of cyanosis, while with 66 per cent. death usually followed. Phenacetin gave similar results. The temperature was affected differently in different animals, but on the whole there was a general tendency to fall. The respiration, too, varied considerably, but the pulse generally rose and after large doses became small and arhythmic. The lethal dose in case of both drugs was found to be about 5 grs. to the pound of body weight.

Friedreich's Ataxia.—The symptomatology and diagnosis of this disorder are discussed by C. Wickel (*Münch. med. Woch.*, Feb. 20, 1900). Usually seen in early childhood, it may yet appear at puberty or later and rarely after acute diseases. As a rule, it is transmitted from generation to generation, but may be present in only one member of a healthy family. A prominent symptom is the progressive ataxia seen on walking; the patient will control his movements by watching his gait and a slight kyphosis may develop from the constant flexion of the spine. Romberg's symptom is not rare. Choreic movements, increased by motion, loss of muscular power, especially in the legs, nystagmus and slow, irregular speech are further characteristics. Tactile and muscular sense do not suffer except late, when the former may be impaired. Vertigo occasionally occurs as do also lancinating pains, but these only to a moderate degree. No change in the skin reflexes are seen while the tendon reflexes soon are abolished. Loss of pupillary reflex or bladder and rectal control do not belong to this disease. Later, the dorsal flexion of the great toe and the psychical changes give a characteristic picture. Among rare complications are mentioned cyanosis, edema, tachycardia, insipid diabetes and excessive perspiration and salivation. The disease must be distinguished from spinal syphilis, but the latter develops more acutely, shows remissions throughout its course, and leads to paresis or complete paraplegia of the legs; changes in sensation, pains and the symptoms of cerebral lues may frequently complicate the picture. The absence of spastic paresis, increased reflexes and eye and bladder symptoms would speak against multiple sclerosis. There usually is little difficulty in diagnosing from tabes, cerebellar tumor and chronic progressive chorea, while, with reference to *hérédo-ataxie cérébelleuse*, it is to be borne in mind that the absence of patellar reflex, optic atrophy, strabismus, and of diminished pupillary reaction in Friedreich's disease would prevent any error.

Intestinal Neuroses.—W. J. Rothwell (*Medicine*, March, 1900) groups these as disturbances of motility, of sensibility, and of secretion. Of the former we have: (1) Peristaltic restlessness depending upon excessive irritability of the motor nerves of the small intestine, and manifested by rumbling, gurgling, croaking or squeaking. It is especially brought on by emotional excitement, and is not accompanied by alvine discharges as the colon is unaffected. (2) Peristaltic restlessness extending to the colon and upper part of rectum, and followed by precipitate bowel movements. These conditions are benefited by general treatment with arsenic or methylene blue. (3) Enterospasm, due to increased irritability of the splanchnic nerves and indicated by colicky pains and a doughy fecal tumor at or near one of the flexures of the colon. This may be relieved by opium or codeine, warm abdominal cataplasms, and soothing enemata. It is in this condition that the administration of opium may be followed by a movement of the bowels. (4) Ordinary colic, or temporary spasm, due to local irritation. The cutting pains are probably due to the pressure of the contracting muscles on the terminal nerve-filaments, and may be overcome as well by antispasmodics as by anodynes.

Of the disturbances of sensibility: (1) Anesthesia is normal except in the lower portion of the rectum. When this becomes anesthetic, as in hysteria, involuntary fecal passages may result. (2) Hyperesthesia, a feeling of distension without tympanites, or soreness without discoverable organic cause, of throbbings, flutterings, etc. (3) Neuralgia, a boring, pinching, or cutting pain centering about the umbilicus, sometimes accompanied by vomiting and feeble pulse, and suggesting peritonitis, appendicitis, renal or hepatic colic or lumbar neuralgia. However, there is no fever, the constipation is not obstinate, and the pain is relieved by pressure. Of secretory disturbances: Mucous colic, and excessive secretion of mucinoid, nonfibrinous material, coagulating on the inner coat of the bowel and discharged at intervals with colicky pains. It occurs usually in neurotic females and is very resistant to treatment. One may use olive or castor oil as a laxative, cannabis indica for pain, sodium phosphate to prevent fermentation, and salol, resorcin, or bismuth salicylate as disinfectants.

Cough of Influenza.—G. Lemoine, *Bull. gen. de Therapeutique*, recommends the following:

℞ Sodii benzoas.....3i
Bromoform.....m x
Syrup of tolu.....ʒi
Syrup of lactucarium.....ʒiii.

M. Take in twenty-four hours in divided doses.

Syphilis of the Labyrinth.—Begin with the administration of pilocarpin, as follows:

℞ Pilocarpin. hydrochld.....gr. iii
Aq. dest.....ʒii.

M. Sig. Four drops, increasing to twelve drops a day, to be given hypodermatically.

Unless noticeable improvement takes place within one to two weeks, substitute general iodide or mercurial treatment, also inject a solution of potassium iodide into the ear and prescribe inunctions behind the ear of iodoform, iodol, or mercurial ointment.—*Politzer* (*Landesmann*).

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS in the form of Scientific Articles, Clinical Memoranda, Correspondence, or News Items of interest to the profession are invited from all parts of the world. Reprints to the number of 250 of original articles contributed exclusively to the MEDICAL NEWS will be furnished without charge if the request therefor accompanies the manuscript. When necessary to elucidate the text illustrations will be engraved from drawings or photographs furnished by the author. Manuscript should be typewritten.

J. RIDDLE GOFFE, Ph.M., M.D., Editor,
No. 111 FIFTH AVENUE, NEW YORK.

Subscription Price, including postage in U. S. and Canada.

PER ANNUM IN ADVANCE	$4.00
SINGLE COPIES	.10
WITH THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, PER ANNUM	7.50

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made, at the risk of the publishers, by forwarding in *registered* letters.

LEA BROTHERS & CO.,
No. 111 FIFTH AVENUE (corner of 18th St.), NEW YORK,
AND NOS. 706, 708, & 710 SANSOM ST., PHILADELPHIA.

SATURDAY, MARCH 17, 1900.

BUBONIC PLAGUE ON OUR WESTERN COAST.

WE have steadily insisted in our columns that the most imminent danger from the bubonic plague in this country would come on our Western coast. We pointed out also that the danger from the introduction of the disease was much greater at small ports of entry than in the well-guarded harbors of large cities. Our warnings are amply justified by the report of nearly a score of cases of the disease on board a vessel from a Japanese port, now in quarantine at Port Townsend, on Puget Sound. Thanks to the vigilance of quarantine officials, the disease did not according to latest reports succeed in effecting a landing. It has been strictly confined to the ship on which it came from Japan. The quarantine officials at Port Townsend certainly deserve the heartiest commendation from the medical profession and from the country at large for their successful efforts in dealing with this threatened invasion, as well as for the prompt and efficient work by which they accomplished it. Their success should prove a stimulus to the most diligent emulation on the part of the quarantine officials at small ports all along our coast lines.

The danger is steadily on the increase along our Western coast, as our commerce with the East becomes more extensive. With the plague at Honolulu and Manila, in addition to the many points on the Asiatic coast and in Japan, only the most intelligent and painstaking precautions will make us secure. With the warmer weather there comes, as a rule, a lessening of the virulence of the plague in India, but this will not justify any relaxation of quarantine regulations in the midst of our growing Oriental commerce. Prevention must be the watchword all along the line.

The discovery of a case of plague in the heart of Chinatown, San Francisco, lends a new and serious interest to the situation. The unfortunate feature in connection with the case consists in the fact that the investigations thus far conducted have been unable to trace the origin of the infection. To complacently rest on the theory that it is a sporadic case, that it has no antecedents and, probably, no successors, would be criminal negligence. Undoubtedly, the health authorities have a hard fight before them in the face of the popular opposition that has been aroused; but they have the legal authority to apply sanitary precautions to the fullest extent necessary, and will be held responsible by the country if they in any way show the white feather.

ENDEMIC DYSENTERY AND AMŒBIC COLITIS.

WHEREVER a number of human beings are crowded together under insanitary conditions dysentery almost inevitably develops. Centuries of experience in camps and barracks have demonstrated the fact. The introduction of a specific germ from without is not necessary, for there is present in the intestinal canal of even normally healthy individuals some pathogenic agent that under circumstances favorable to its development takes on a virulence that produces the disease. The conditions that bring about this increase of virulence in one or more of the flora (or fauna?) of the intestines need not necessarily be extremely insanitary. In recent years the hygiene of great assemblages and of army camps has been much more carefully guarded than formerly, yet the attempt to prevent the occurrence of dysentery is still unavailing. Our own recent experience and that of the British in South Africa have been sad proofs of this. The history of our summer militia encampments show

how incessantly natural forces are on the watch to resent breaches of sanitary discipline.

The pathogenic agent at work in these cases remains a mystery. Japan has in recent years suffered from an endemic dysentery that has gradually spread throughout the country. A recent consular report to the United States Government attributes the etiology of the disease to a microorganism that is not unlike the colon bacillus in many of its bacteriological characters. It bears a family resemblance also to the typhoid, and seems in the opinion of competent Japanese investigators to be a member of this colon typhoid group, perhaps a normal dweller in the intestinal canal. Whether this microorganism described in Japan is universal and liable to take on similar virulence under like conditions in any part of the world remains undecided.

A very interesting phase of endemic dysentery in this country was described at the recent discussion on colitis before the Section on Medicine of the New York Academy of Medicine (see p. 432). A number of observers in New York are agreed that there are cases of amœbic dysentery constantly to be found in the city. Careful investigation shows that the disease occurs among people who have never been out of the city, yet whose stools are easily seen to contain active amœbæ in large numbers.

The pathogeneity of the amœbæ that have been found in the stools of patients in temperate climates is by no means generally accepted. Notwithstanding Quincke's work on the subject there are many who doubt if the amœbæ, so often found as an inhabitant of the intestinal tract of people who have never been in the tropics, can ever under any circumstances be the active cause of the dysentery with which it is sometimes found associated. Ordinary drinking water contains active amœbæ in large numbers, especially during the summer. It is from the public water supply almost anywhere in the United States that specimens of this microorganism are obtained for biological study and demonstration. Most of the amœbæ consumed with the drinking water are undoubtedly digested in the stomach, but some of them escape the action of the digestive juices and multiply rapidly in the intestine. Some three years ago at a meeting of the resident and attendant physicians of the Charité Hospital, Berlin, it was accepted that active amœbæ occurred frequently in the stools of healthy individuals who have never had dysentery. Only in the virulent form can the amœba be held responsible.

THE PATHOLOGICAL INSTITUTE OF THE NEW YORK HOSPITALS IN DANGER.

THREE years ago the State Lunacy Commission under the leadership of its president, Dr. Carlos F. McDonald, established for psychic research a State laboratory, known as the Pathological Institute. It was the purpose of the Commission to make a new departure; to leave the treadmill-round of clinical observation and citation as carried out in the asylums and strike out new paths in the living phenomena of psychiatry. Those who recognized the dead empiricism of former methods saw in the establishment of the Institute the possible dawning of a new era. These hopes have been steadily confirmed and justified. The correlation of psychologic and medicobiologic sciences in psychiatric investigation was a brilliant conception, and as the Institute has developed and evolved its methods of investigation the conviction has become irresistible that important results are within its grasp. The plan and methods have already thrown altogether new lights on the problem. These are sufficient to justify its existence and demand its continuance. Sufficient time, even in this land of rapid achievement, must be given for such a great work in science to develop on its own particular lines of research before we are justified in demanding of it far-reaching, practical results.

Unfortunately departures from time-honored methods seldom escape opposition. And the Institute is experiencing the usual fate—carping criticism has been present from the first, but this has at length broken out into decisive opposition, and this, too, in the camp of those who were wont to be called its friends. This is the more startling when we consider how inconceivable it is that any one who has the slightest interest in neurology, or psychiatry, or in science in general could be so ill-advised as to pass final judgment on or oppose as well considered a plan of research as is embodied in the Institute. The question then becomes a pertinent one: What are the motives that inspire this opposition. The well-known fact that the practical politicians seldom interfere with established scientific institutions makes the question all the more pertinent. And we, therefore, ask who is responsible for the threatened destruction of the Institute, and what are his motives?

THE SEA-TRANSPORTATION OF WOUNDED.

THE success attending the construction and use of hospital ships, as developed in our Span-

ish-American war, has given such an impulse to the science of medical transportation that it seems to have reached almost perfection in the hands of the British in connection with the South African war. The "Princess of Wales," which arrived at Southampton last week with 174 wounded men from Magersfontein and Modder River on board, has achieved the proud record of carrying the entire detachment from Cape Town without a single death. Indeed, many of them when they reached England were on the highway to recovery and the majority of them practically well. As only the seriously wounded men and those likely to be long disabled, or slow in recovering, are sent home by the hospital ships, this is an achievement of which medical science and constructive skill may well be proud.

If the site of the theater of war had been especially chosen with the view of promoting and accelerating the recovery of the sick and wounded in the highest possible degree, it could not have been improved upon. Three-fourths of those who were placed upon the ship at the Cape reached home practically cured. The railroad trip down to the coast, the sea-breezes, and the fresh air of Wynburg are sufficient for the restoration of about half of the sick, and for the remainder the three weeks' sea voyage in a spacious and not overcrowded transport, or luxurious hospital ship, is an ideal climate cure. Beginning in the mild subtropics, the temperature gently warms up as the ship approaches the equator and then cools down slowly again to the tonic snap of the Bay of Biscay, like a well-graduated Turkish bath. Its effectiveness is something wonderful. More than one-half the men landed up to date found themselves fit to turn about and go back at once, and very few of them are unable to walk ashore unassisted, although they had all been carried on board at Cape Town.

ECHOES AND NEWS.

NEW YORK.

Hospital Appointments.—We call attention in our advertising pages to the competitive examination for hospital staff appointments for the German Hospital, to be held April 12, 1900.

Dr. McBurney Resigns.—Dr. Charles McBurney, who for many years has been chief of the staff of surgeons at Roosevelt Hospital, will sever his connection with that institution with the month of March. His resignation was presented to the Board of Trustees of the Hospital February 27th. The cause of the resignation is ascribed to the need of rest. His successor has not yet been appointed.

Mine Disaster Victims.—Three victims of the recent Red Ash Mine disaster in West Virginia, in which forty miners were killed or injured, unexpectedly arrived last week in New York City. The men were all suffering from broken bones and serious contusions and were sent by the police to the Hudson Street Hospital. After their injuries were dressed they were removed to Bellevue.

Medical Legislation.—The bill appropriating $1,000,000 for State care of the insane has passed the Legislature and awaits the Governor's signature. A bill has passed the Senate providing for the abatement of the nuisances connected with the Garbage Disposal Plant on Barren Island, and a bill has been signed by the Governor giving to New York City authority to construct sewage disposal plants. In the Assembly a bill has been introduced which requires the Commissioner of Water Supply of New York City to provide for a proper filtration of the water. Provision is made for the construction of proper machinery, and the Comptroller is authorized to issue special bonds to meet the expense.

Contagious Diseases.—For the week ending March 10, 1900: Measles, 874 cases and 30 deaths; diphtheria, 264 cases and 46 deaths; laryngeal diphtheria (croup), 14 cases and 7 deaths; scarlet fever, 174 cases and 19 deaths; chicken-pox, 25 cases; tuberculosis, 223 cases and 163 deaths; typhoid fever, 13 cases and 6 deaths; cerebrospinal meningitis, 6 deaths. Totals, 1587 cases and 277 deaths.

New Infant Hospital.—Two ladies have given $10,000 to the Children's Aid Society of Brooklyn for the building of an infants' hospital and a beach pavilion, as an extension to its other buildings used in the summer at Coney Island. This hospital will be reserved for cases of critical illness. The buildings will be completed in time for the summer season.

Pemphigus at Bellevue.—More than thirty physicians were at the Bellevue morgue on the evening of March 9th to witness an autopsy made by Dr. Ewald upon the body of a man, twenty-four years of age, who died from pemphigus, an exceedingly rare disease in the United States. Pain in the face was first complained of; this was diagnosticated as neuralgia. He had polyphagia to a marked degree eating more than ten grown persons would usually eat. The most characteristic skin lesions were vesicles containing serum.

A Step too Far.—About twenty boys and girls in the new High School in Williamsburg witnessed, on March 7th, the chloroforming to death and dissection of a cat in order that a practical demonstration of the anatomy of the animal could

be given by Professor J. K. Van Demberg. The bad impression which must have been made upon these young people is very likely to have far outweighed whatever good may have resulted from the demonstration.

Geneva's Smallpox Expense Claim.—A claim of $2386 arising from the importation of smallpox into New York State in 1898, by the Joshua Simpkins Opera Company, was filed in Albany on March 10th by the City of Geneva. A mild epidemic or smallpox in that section originated with a member of the company. The company went to Geneva, where its twenty-six members were placed on the steamer "Onondaga" and quarantined on Seneca Lake for several weeks. The city's claim is for the cost of the quarantine.

The Medical League.—The Secretary of the Committee on Charities and Legislature of the New York Medical League submitted its annual report at the meeting held January 15, 1900. The report narrates the active part taken by the Committee in securing the passage of the present Dispensary Law, and also its success in checking the growth of unnecessary charities in preventing the Home for Incurable Cancer securing a charter. The report commends Comptroller Coler in the attitude he has assumed toward public hospitals and dispensaries. The Committee also took an active part in resisting the incorporation of Emanuel Hospital. The suppression of this institution was one of the first fruits of the new Dispensary Law. The Committee also closes its report by urging upon the entire profession more attention to public duties as a part from the mere grinding out of fees, and the desultory work done in hospitals and public institutions. The Committee regrets "that the profession is not sufficiently interested in these matters to take the time and trouble to work at problems which concern us all, not merely as medical men, but as residents of the largest city in the Union."

Obituary.—Dr. Charles E. West, a pioneer in the education of women and for many years the head of the Brooklyn Heights Seminary, died on March 9th. He was born in Washington, Mass., in 1809, and was graduated from Union College with the class of 1832. In 1839 he became principal of Rutgers Female Institute, and during his twelve years' service in that capacity he outlined a plan of college-work for women which was the precursor of the course at Wellesley and Vassar. He received the degree of A.M. from Union and Columbia, that of M.D. from New York University, and that of LL.D. from Rutgers. A son and two daughters, one of whom married Dr. William P. Northrup of this city, survive him.

PHILADELPHIA.

Influenza.—The Board of Health reports an epidemic of influenza. Several hundred cases have developed and five deaths from this cause occurred last week.

Resignation.—Dr. John Ashhurst, Jr., Professor of Surgery in the University of Pennsylvania, has resigned that position, the resignation to take effect at the close of the present session.

Osteopathy.—The Pennsylvania Association of Osteopathists was organized at a meeting held here last week, Dr. O. J. Snyder of this city being chosen president. Efforts will be made to have the practice of osteopathy legalized in this State.

Health Report.—Deaths in the city for the week ending March 10th were 511, a decrease of 85 from the previous week and a decrease of 9 from the corresponding week of last year. Contagious diseases: Diphtheria, 82 cases, 20 deaths; scarlet fever, 54 cases, 3 deaths; typhoid fever, 84 cases, 10 deaths.

Contagion Feared.—Citizens residing near Thirteenth Street and Lehigh Avenue are alarmed by a report that the trustees of the Rush Hospital for Consumptives are negotiating for a building at that place. A petition averring that said hospital would be prejudicial to the health of the locality has been presented to the owners of the property. It is interesting to note the names of two physicians among the signers.

Celluloid Thread.—At a meeting of the College of Physicians, March 7th, Dr. W. W. Keen presented a report upon the use of celluloid thread in surgery. He and other members of the surgical staff of the Jefferson Hospital have used it with satisfaction. Experiments show that the tensile strength is increased by sterilization, dry heat more than doubling it. The thread absorbs fluids to 41 per cent., this being the most marked disadvantage thus far discovered. Experiments regarding its absorbability are in progress.

Pathological Society.—At the meeting of March 8th Dr. A. O. J. Kelly spoke on "Tumors of the Vermiform Appendix." Of 760 appendices removed at the German Hospital four contained malignant growths, three of these being only microscopic in size. Three of the growths were primary. The clinical symptoms were those of appendicitis. Dr. Frazier reported a case of oxyuris vermicularis in the appendix. In another case a segment of tapeworm was found in the appendix.

Women Army Nurses.—A meeting of physicians and nurses was held March 10th to discuss the bill providing for the employment of women nurses in army hospitals. Dr. S. Weir Mitchell said that the Surgeon General should be placed at the head of the corps of women even if he had under him a woman superintendent. No nurses should be appointed to the army except by competitive examination. This point he considered very important and urged that a clause, stipulating it, should be incorporated in the bill. Mrs. J. R. Hawley spoke of the progress of the bill and of the objections being raised against it. Dr. W. W. Keen is heartily in favor of the bill, but would have some changes made. The number of nurses should be increased and the service made

to include transports, hospital ships, and field-hospitals. No woman nurse should be sent to the front. He is not sure of the expediency of a woman superintendent of hospitals, but if this should be decided upon the superintendent should be one who has risen from the lowest ranks by promotion.

CHICAGO.

Superintendent of Alma Sanitarium.—Dr. George F. Butler of this city has been appointed Superintendent of this Sanitarium at Alma, Michigan, to succeed Dr. E. S. Pettyjohn, the appointment to take effect May 1st. Dr. Butler will retain his college connection with the Chicago College of Physicians and Surgeons, and will continue to edit the *Doctors' Magazine*.

Examination of Osteopaths.—On March 6th a class of 21 osteopaths from Illinois and surrounding States took a special examination before the State Board of Health for licenses to practice osteopathy in Illinois. The branches in which they are required to pass a successful examination are anatomy, physiology, chemistry, histology, pathology and hygiene. The license does not permit the administration of medicines or the use of instruments in performing surgical operations.

Vital Statistics.—During the week ended March 3d there were 537 deaths recorded by the Health Department. For the first two months of the current year there were 4396 deaths in Chicago as against 4736 for the corresponding period of 1899, a decrease of 342 for the current year. This diminished mortality is due to fewer deaths from pneumonia, influenza, typhoid fever and nervous diseases. The medical inspectors of schools examined 4079 pupils, and of that number excluded 348 because of the danger of infecting others. One hundred and thirty-six bacteriologic examinations were made in the city laboratory; 67 cultures from children's throats were made for physicians for the purpose of determining if children had diphtheria, and the bacillus of the disease was found in 11 of this number.

Visiting Nurse Association.—This Association has been of the greatest value to the city Health Department in its work. This is particularly noticeable in its efforts to suppress contagious disease. Nurses have been most diligent in ferreting out concealed cases and reporting them, and the individual effort that is made by the nurses in teaching those who so much need it the value of isolation in contagion, the value of antitoxin in the cure of diphtheria and vaccination in smallpox, together with the value of the generous use of soap and water and general cleanliness of person and habit, is a gentle and valuable influence that cannot be coldly calculated in dollars and cents.

Eye and Ear Symptoms in Brain Tumor.—Dr. William H. Wilder discussed this subject at a joint meeting of the Chicago Medical and Neurological Society. In the list of general symptoms he put optic neuritis second to headache. Optic neuritis should be looked for at once in all cases of suspected focal disease of the brain, for it may be present although normal central vision exists. The writer found mention of this sign in a hundred and four cases out of a hundred and forty cases of brain tumor recorded in the literature for four consecutive years. Another important general eye symptom of brain tumor, although less frequent than the former, is temporary periodic blindness, coming on in the early stages of the growth. Hemianopsia may be an important localizing eye symptom of brain tumor. The ear symptoms relate principally to the labyrinth and the auditory nerve, and consist of subjective sounds and varying degrees of deafness. Careful exclusion of middle-ear disease is necessary before formulating any conclusion as to the relation of ear symptoms to a possible intracranial growth.

Dr. Weller Van Hook discussed recent work in the surgery of brain tumors.

Socio-Legal Forum Meeting.—This Association, which is composed of physicians, lawyers and sociologists, recently held a meeting at which was discussed "Heredity as a Factor in Developing and Maintaining Crime and Criminals," the essayist being Dr. Albert Schneider. Among other things he said that one boy will steal and lie for the same reason that another is honest. It is natural in either case. Acquired characteristics may be transmissible to the next generation to the same extent that inherited characteristics are. Criminals, like poets, are born, not made. Crime is born of crime. The alcoholic habit is not inherited, but the tendency to become a victim of the habit is inherited. One of the most important matters that should be considered to-day is the prevention of marriages among paupers, criminals, dependents, and delinquents of all kinds. In the discussion Dr. Daniel R. Brower said that the criminal is usually the subject of the tyranny of his construction. The basis of his character is found in the preceding generations. The law with its conservatism has failed to recognize this fact. The crime and not the criminal has been the consideration. The laws should be changed so that the criminal is the consideration. Dr. W. Xavier Sudduth advanced the theory that environment and tradition are stronger influences than hereditary characteristics, and this difference was discussed pro and con by nearly all the members present. Tradition and environment have more to do with the place of man in the social scale than heredity. Every child is by nature a savage, and it is his early training that has a large influence in making him one thing or another. A tendency may be inherited, but a habit seldom is.

Kidney Affections in Pregnancy.—Dr. J. Clarence Webster read a paper on this subject before the Chicago Medical Society. In 1848 Virchow pointed out that, of all the organs in the female organism, the most frequent functional or structural alterations due to pregnancy are found in

the kidney. Sugar is found in a considerable number of cases of pregnancy, and more frequently after delivery, but this is only milk sugar absorbed from the breasts, not true glucose. The latter is no more frequent in pregnancy than in the non-pregnant state.

With reference to the occurrence of albumin in the urine and its significance, there is great difference of opinion. Its frequency has been variously estimated by different workers. According to recent observations, serum-albuminuria occurs in about 2 per cent. of all pregnant women who are healthy at the beginning of pregnancy. The process of labor causes albuminuria in a still larger percentage of cases. The investigations of the late Sir Thomas Grainger Stewart appear to justify the view that there may be an albuminuria, which is to be regarded as a psysiologic peculiarity and not the indication of a pathologic process. A priori, then, it must be conceded that a like explanation may suffice for some cases of the albuminuria of pregnancy. In a small number of cases the kidneys may not recover from this condition after labor, but may pass into a permanent true parenchymatous nephritis. In the majority of instances, however, there is every reason to believe that they may be restored to their normal condition in a short time.

With reference to compression of the ureters, Halbertsma of Utrecht, from his studies of eclampsia, believes that increased intra-abdominal pressure due to the pregnant uterus, may, by interference with the functions of the ureters, lead to alterations in the renal structure. He thinks that the special tendency to these alterations in primiparæ, hydramnios, multiple gestation, contracted pelvis (in all of which the pressure is increased), strengthens his view. Ries believes that in some cases compression of the ureters by the presenting part of the fetus is the most important factor. The essayist believes that too little attention has been given to the opinions of Halbertsma and Ries.

The treatment of a pregnant woman with symptoms pointing to disturbed renal functions is to be carried out on the lines followed in the non-pregnant state. The strictest watchfulness on the part of the physician is necessary.

GENERAL.

Grip in Boston.—Grip has assumed epidemic proportions in and about Boston. The Board of Health reported 19 deaths from it for the week ending March 10th.

Professor Osler.—It is stated that Dr. Osler, Professor of Medicine at Johns Hopkins University, is to be asked to allow himself to be nominated to the Chair of the Practice of Physic in the University of Edinburgh. The *Medical Press* in this connection avers that the Doctor's reputation is as great in the Old World as in the New.

Mutter Lectureship.—The next course of ten lectures instituted by the late Professor Thomas Dent Mütter, M.D., LL.D., on some "Point or Points in Surgical Pathology," will be delivered during the winter of 1902-1903 before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating in full subjects of proposed lectures, must be made before October 1st, 1900, to the Committee on the Mütter Museum, and should be addressed to John H. Brinton, M.D., Chairman, Northeast Corner of Thirteenth and Locust Streets, Philadelphia, Pa.

Gynecology, Surgery or Medicine?—It appears that in England gynecology is definitely set down as a branch of surgery, instead of a department of medicine. In a recent announcement of a vacancy for a surgeon for diseases of women, it was stated that candidates must be Fellows of the Royal College of England; in other words, no member or Fellow of the Royal College of Physicians need apply.

Science Classified.—Sir Michael Foster, who is one of the Parliamentary M.D.'s, in a recent speech classified the various aspects of science into: The science *militant*, tilting against every known tradition, the extreme wing of which he denominated as the science *blatant*, always making pretensions for science to which science itself makes no claim. The science blatant is preached by men who have taken no part in the fight, but have stolen the trumpet from some one and simply blown it. Then there is the science *vigilant* which is always seeking occasions for advance; and the science *mendicant*, which, like the daughter of the horse-leech, is always crying, "Give, give!"

Decorated Sausages.—Before the English Government Commission upon Food Preservatives Mr. Walter Fisher, President of the Society of Public Analysts, recently testified that the practice of using coloring matter in food was alarmingly upon the increase. He declared that he had even known of coloring matters which were themselves artificially colored. To this Professor Thorpe added in corroboration that sausages might be found whose exterior was covered with an aniline dye, and whose interior was tinted with a preservative containing Bismarck brown. Mr. Fisher replied that he had heard of such double-dyed deception, but had never examined sausages professionally, nor had he supposed them capable of such rich adornment. Sausage has always been a synonym for mystery, but that its nefarious dark compounds were also frescoed and hand-painted in elaborate style is a fresh revelation of its duplicity.

Mania a Sero.—The *Practitioner* cleverly announces that a severe epidemic of a new form of insanity appears to be setting in. With *mania a potu* we are sufficiently familiar; now we begin to make acquaintance with *mania a sero*. This remarkable affection does not attack patients but the physicians, and the symptoms are particularly severe in those who themselves make the

serum. Already we have a serum for nearly every known disease. Metchnikoff is about to abolish old age. This, however, depends upon the supply of guinea-pigs. Old age being disposed of, the next thing is to attack vice. A horse subjected to drugging with whisky is supposed to yield a serum which will reform the most inveterate drunkard. As some of the vices cannot well be inoculated into animals, however, we shall eventually reach a condition in which human subjects will have to be employed. "It will doubtless be a comfort to old sinners," says the *Practitioner*, "to be of some use to their kind before they depart this life by furnishing serum that will serve to produce immunity from their vices in others."

Candy for the Soldiers.—Fifty tons of candy have been sent to the soldiers in the Philippine Islands by the Commissary Department of the army during the last three months, and large amounts to the soldiers in Cuba and Puerto Rico. This is done upon the advice of the medical as well as line officers of the army, because it is a physiological fact that in the tropics a moderate consumption of confectionery promotes health and satisfies a natural and not unhealthful craving of the stomach. Candy was never furnished to the United States army before, although it is commonly used as a ration by the British and French troops in the tropics. The larger part of the shipment are chocolate creams and lemon and other acidulated drops, which are hermetically sealed in one-pound tins of oval shape to fit the pocket of a soldier's uniform. The candy is manufactured in New York especially for the Commissary Department and is little more than sugar and lemon or lime juice. It is probable that sugar henceforth will form a part of the soldier's regular ration.

The Russian Method.—The Russian Government has grappled with the question of the overproduction of medical practitioners in a drastic manner peculiarly its own, states the *British Medical Journal*. The admission of first-year students by the several medical faculties throughout the empire is restricted to a fixed number. The total number of first-year medical students in the dominions of the Czar is thus fixed at 1095. This number does not include the students of the St. Petersburg Medico-Military Academy, which is allowed to admit 250 first-year students.

Smallpox in Morristown.—While walking through the public square in Morristown, New Jersey, on March 10th, Dr. James Douglas noticed that the face of Isaac Quimby, one of a group of boys who were playing, was covered with an eruption. He made a diagnosis of smallpox and conducted the boy to the pesthouse, walking on the sidewalk while the boy walked in the road. Two weeks ago a member of the Quimby family was taken ill with the disease, yet since that time this latest victim has been on the streets daily. The local Board of Health is greatly censured for permitting young Quimby to be at large, and possible developments are anxiously being awaited. Three new suspicious cases were reported to the Board of Health on March 10th, and a strict quarantine was established around the houses of the patients.

Dr. Barker and Dr. Bardeen.—Dr. Llewellyn F. Barker, Associate Professor of Pathology of the Johns Hopkins University Medical Department, has accepted the Chair of Anatomy and Neurology at the University of Chicago. He will teach also in the Rush Medical College. He will assume his new duties at the beginning of the next term of the University.—Dr. Charles Russell Bardeen, who is Associate in Anatomy, will become Professor of Anatomy in the University of California.

Health of Troops at Manila.—Surgeon General Sternberg made public, on March 12th, a statement showing the number of sick soldiers in the Manila hospitals, as given in the weekly cable reports since January 20th. The report is as follows: January 20th, 2540; January 27th, 2389; February 3d, 2051; February 10th, 1630; February 17th, 1613; February 24th, 1531; March 3d, 1434; March 12th, 1287. It appears by these data that since January 20th there has been a decrease of nearly 50 per cent., mainly due to the complete recovery of many of those who were ill. It is reported that the Manila hospitals are in excellent condition and that the bubonic plague has been fully checked, if not conquered. Major Brown, who has charge of the Sanitary Inspection Department, has been able to reduce his corps of inspectors nearly one-half.

The Plague.—The number of cases of the plague at Calcutta is steadily on the increase. There were 411 deaths from the disease there during the first week of March. This is causing a great exodus of merchants from the city. At Sidney, Australia, three new cases of plague were officially reported March 11th. At Buenos Ayres a number of cases of plague have been officially reported. Vigorous quarantine measures are being enforced. At the Cabinet meeting in Washington the recommendation of the Hawaiian Council that they be authorized to spend $300,000 in the suppression of the bubonic plague, and in the relief of distressed natives, was formally approved. The opinion was unanimous that the gravity of the situation justified this expenditure and the necessary directions were forwarded at once.

At San Francisco the Board of Health began, March 12th, a house-to-house inspection of Chinatown, because its members are now firmly convinced that the Chinaman who died a week ago succumbed to genuine bubonic plague. This decision was reached after hearing the testimony of the Federal quarantine officer, Dr. Kinyoun, who reported that all the animals which had been inoculated with virus from the body of the Chinaman had died, and autopsy demonstrated the presence of bubonic plague. His diagnosis was concurred in by several other bacteriological ex-

perts. As this case may have been merely sporadic, the board decided not to quarantine Chinatown, but to establish a systematic inspection of the quarter and to insist that all sick Chinese shall be brought for treatment to white doctors. It was also decided to clean Chinatown.

Physique of the Boers.—The London *Lancet*, commenting on the physical condition of the Boers due to their pastoral life and outdoor occupations, says: In so far as they are of Dutch descent, the Boers should be small. The French blood which is mingled with that of the Dutch would not tend very considerably to increase the height of the Boer. The French, although taller than the Dutch, are not so tall as the English. Yet the Boers of to-day are taller, stronger, and possess a more powerful physique than the English. It is quite a common occurrence to meet a Boer six feet six inches in height. Indeed, it has been said that the average height of the Boer is six feet two inches. All travelers bear witness to their magnificent physique, especially those who have been among the real Boers, that is to say, those who live in the rural districts well away from the railway lines.

But apart from the flesh and bone, the big, strong frames, and the hard muscles developed by the healthy, constant out-door exercise, the Boers have practical freedom from the diseases due to alcoholism and vice. They are not total abstainers, but they are remarkably sober, and drunkenness is rare among them. On the other hand, how often are British soldiers punished for drunkenness and invalided through venereal disease. Not only is almost every Boer physically fit to take the field and fight for his country, but he is a stronger, healthier, and bigger man than even those who have been selected by medical examination as fit to serve in the British army.

From this the *Lancet* deduces the lesson that the physical salvation of the human race is to be obtained only by securing at least a reasonable proportion of the fresh air, sunshine and out-of-door life that is enjoyed by the Boer.

Medical War News.—There are now no fewer than seven consulting-surgeons with the British forces in South Africa, each receiving pay at the rate of $25,000 a year, or a total of $175,000. The *Practitioner* remarks that, of some of them, it may be said without the least reflection upon their professional position that they had blushed unseen within the walls of their hospitals before this greatness was thrust upon them. The men, of course, are worth it and more than worth it, but the question is asked: Is the work which, in the peculiar circumstances of the case they are able to do, worth it?

The siege of Mafeking continues and all the horrors and suffering of Ladysmith are being experienced here. Two hundred and ninety-two persons have been killed, wounded, or have died of disease since the siege began. Typhoid malaria and dysentery are epidemic. The death-rate among the children is said to be appalling.

Much complaint is being made of the character of the ambulances supplied by the war officials. Their massiveness may be estimated from the fact that it requires twelve mules to draw one over broken ground, although they only accommodate two patients lying down and four sitting up. A patient carried in one of them to the hospital writes that the agony he endured from the jarring of a compound fracture exceeded the setting of it afterward. By contrast with this condition of affairs the Boer ambulances are of the most modern and approved pattern; carry four or even eight patients lying down and are drawn by two horses. One of the private English field-hospitals, however, has a star equipment in this respect. Its ambulances are light road-wagons, can go anywhere and keep up with the movements of the cavalry. It has earned for itself the title of "the galloping hospital."

It is being discovered that the recent detachments of reservists and militiamen forwarded to South Africa contain a very large number of "lame ducks," hopelessly incapable of going to the front. It is quite evident that the examinations at home have been conducted by men who do not understand military requirements, or who were so pressed for time that they could not do thorough work. Cases of distinct phthisis, of renal disease, of well-marked tertiary syphilis, of ulcer of the leg, of large varicose veins, of varicocele, of old inguinal hernia, and similar ailments, have been landed at Cape Town only to be sent back home; and this not in ones and twos, but in a very fair proportion.

Frederick Treves who is with the forces as consulting-surgeon says that the men at the front are a fine, hardy, heroic set. One poor fellow, who had been hit by a piece of shell at Spion Kop, which had carried away his left eye, the left upper jaw and the corresponding part of the cheek, and who was unable to speak, when landed at the hospital made signs that he wanted to write. Pencil and paper were given him with which to express his needs, but he merely wrote, "Did we win?" Of course, no one had the heart to tell him the truth.

SELECTION.

BERIBERI AND PLAGUE AT PORT TOWNSEND QUARANTINE.[1]

By M. HUGH FOSTER, M.D.,
ASSISTANT SURGEON, U. S. M. H. S.

Nothing is so effective in allaying fear and avoiding panic as preliminary and intimate knowledge concerning the possible cause of such conditions. To this end we publish in full the following detailed account of the thorough manner in which the Marine Hospital Service is meeting the threatened invasion of our shores by the bubonic plague.

"I have the honor to make the following re-

[1] Report to Surgeon-General Wyman.

port of the condition of affairs relative to the Japanese steamship 'Nanyo Maru,' now held in quarantine at Port Townsend. This vessel arrived here January 31st, seventy-five days out from Kobe and thirteen days from Honolulu. She gave a history of having carried 312 Japanese immigrants from Kobe to Yokohama, and had been disinfected at Yokohama and detained seven days on account of suspicious glandular enlargement of 3 of her passengers. These cases, according to Sanitary Inspector Eldridge, proved not to be plague and the vessel departed, leaving these 3 behind. There were 800 passengers on board to work in the sugar plantations. I understand that these were held on the vessel for thirty days before they were allowed to land at Honolulu, and as a result the vessel was in a filthy condition when she got here. Two cases of beriberi were discovered—1 among the passengers and 1 among the firemen. On arrival at quarantine these were removed to the hospital and the vessel started to unload her cinder ballast. Two other cases were reported during the afternoon, 1 of whom died during the night.

"The necropsy I reported at length in my letter of February 2d, and it showed all the signs of beriberi, but in addition there was a general glandular enlargement all over the body. This caused me to send some of the glands and a part of the spleen to Surgeon Kinyoun at Angel Island for microscopical examination, and to recommend that the vessel be held pending his report. On February 2d, 1 of the inmates of the hospital died and the necropsy was exactly similar to the first. Two additional cases of beriberi were admitted on this day and 5 on the following, making a total of 11 cases up to that date and 2 deaths. The patients in the hospital all had swollen and edematous legs, more or less paralysis of the limbs, and complained of pain in the muscles and oppression of the heart. The necks and faces of the severer cases were also swollen and there was 1 case of suppression of urine. A personal examination showed me that about half of these had enlarged glands, but none of them has ever had any fever nor have the glands been tender or painful. A large number of the crew and steerage also showed generally enlarged glands, but were well and lively. I took some of the glands of the second case and rubbed them up in a mortar with sterile water and injected 1 c.c. of the solution into the leg of a rabbit. This rabbit is alive and well fifteen days after. Three of the 9 remaining cases looked to be serious, but all have convalesced nicely except 1, who died on February 16th, and presented the same appearances at the post-mortem as the other 2.

"To return to the vessel, the crew were set to work discharging ballast and a preliminary disinfection with sulphur made in the steerage which was the worst part of the entire vessel. The passengers were taken ashore, and, after the usual bath and disinfection of clothing, were put in the barracks. The captain, under coercion, ordered a supply of fresh bread and beef for all hands. A quantity of spoiled food was condemned and burnt. The water-tanks were boiled by turning in steam and a new supply of water given. After three or four days of mechanical cleaning-up by the crew and quarantine attendants, the vessel and crew were disinfected. All were then returned to the vessel. The bathhouse and disinfecting-room were disinfected at the completion of the process, as is our routine custom. The pilot was kept at the station as he had been on board the vessel all night.

"Upon receipt of a telegram from Surgeon Kinyoun that he had found something suspicious, Dr. Seavey was placed in charge of the hospital and a strict quarantine imposed upon him as had been upon the nurse and hospital from the start. The entire station, including surgeon's and attendant's quarters, was disinfected and all the clothing and bedding of the complete personnel sterilized. The antipest serum was sent to the quarantine yesterday, and I have ordered every one on the station and those in the hospital to receive an immunizing dose of 10 c.c., and I think we are taking every precaution possible.

"To sum up, I would state that I have no doubt that all of these cases had beriberi, that the first one was probably recovering from an ambulant case of plague seems possible from the finding of the plague bacillus in the glands, as reported by Dr. Kinyoun. I understand that he was not ashore at Honolulu, and may have received his infection at Kobe, at least seventy-six days before death. I shall, therefore, redisinfect the vessel and permit her to depart with a new crew if the owners desire, but I shall detain the entire personnel fifteen days to await developments; this I regard as very necessary. . . . I have received 24 flasks of the pest serum and ordered 3 antitoxin syringes from Seattle as soon as I received word that it was coming. All we need now is a larger supply of the antipest serum and we will be fully equipped for any emergency."

CORRESPONDENCE.

LEGISLATIVE FADS VERSUS INDIVIDUAL LIBERTY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—In your issue of February 10th, page 228, I notice a news item on medical control of marriages. The item in question informs us that a bill is before the legislature of Colorado, "which, if passed, will place the granting of marriage licenses in that State in the hands of a board of medical examiners."

From the general tenor of the bill, as given in the news item, there is but little doubt in my mind that it was prepared by a medical man. One of the many—alas, too many—whose ambition or spirit is not satisfied with quietly working strictly within the sphere of their chosen calling, but who feel impelled to exercise a despotic control over the individuals who make up that ever-erring,

distract, and sorely abused football of venal and vicious, or ignorant, politicians—the State. Of course, it is all done for the good of humanity! All such, and kindred, statutory enactments—which are being piled up by every legislature of every state, *ad nauseam*—have been established to that end. I hope that the bill will pass the legislature, in order that the Governor, with a severe scoring of its projectors, may veto it because of its patent unconstitutionality.

Such coercive measures for the betterment of social evils, and general improvement of mankind, are fundamentally wrong. "By the pursuit of this absurd policy, modern reformers, forgetting that they are following in the footsteps of the old French despots, imagine that they are hastening the millennium. What they are hastening is only a revolt against their suppression of freedom. They are building up a despotism of democracy certain to become just as hateful and intolerable as the despotism of autocracy."

To all would-be hasteners of the millennium, to coercive-philanthropy advocates, and to those who feel irresistibly impelled to frame, and lobby through the legislature, laws which are intended to improve mankind physically and morally, I would commend the study of Von Humboldt, Huxley and Spencer.

Albert F. Fuchs, M.D.

Loyal, Wis., February 26, 1900.

EGG-MEMBRANE FOR SKIN-GRAFTING.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I notice in your journal of January 27th, under the heading of "Echoes and News," that the lining membrane of the egg was used the first time in the United States for grafting purposes at the Methodist Episcopal (Seney) Hospital, Brooklyn.

This is not so unless tried more than three years ago, as I used egg membrane successfully for grafting during my service as intern in the City Hospital, during 1897 and 1898.

There was a case of an extensive burn on the body admitted to Ward VIII., that refused an operation for skin-grafting; consequently the membranes of the ordinary hospital eggs were used, but with little idea of success on account of the uncertain age of the eggs. The membranes were applied and treated in the same way as the ordinary Thiersch grafts. On the fourth day the bandage was removed and the wound washed with normal saline solution. All of the membrane seemed to come away, but close inspection revealed the fact that small parts of the inner layer of the egg membrane were adherent, forming minute bluish islands on the granulating surface of the wound. These islands gradually spread over the whole raw surface covering it with a bluish-red skin.

I found the growth of the egg membrane grafts much slower than that of the old skin method, but otherwise satisfactory. Two cases have been treated since with the same results.

I do not think my case was the first treated in this way in America, as the idea was obtained from some medical journal.

G. L. Kessler, M.D.

588 Bedford Avenue, Brooklyn, N. Y.
March 1, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 3, 1900.

SIR JAMES PAGET'S ESTATE—SMALL DISEASE-RATE AMONG TROOPS IN SOUTH AFRICA—NATURE OF "CAMP-FEVER"—THE CORYZA OF THE TROPICS—A HISTORIC INSTANCE OF HAIR TURNING WHITE UNDER EMOTION EXPLODED.

IN these days when the wicked flourish as a green bay-tree and we are assured that it is chiefly the charlatans in the profession who succeed financially, it is a comfort to come upon instances of genuine merit reaping rewards not merely of fame but of substantial emoluments. The case in point is furnished by the publication of the will of the late Sir James Paget. His net estate reaches the by no means imposing but most comfortable figure of $370,000, which is divided almost equally among his six children. There is a custom among the leading newspapers here which strikes an American curiously, in spite of our alleged utter journalistic indifference to the rights of individual privacy, of going to the public register of wills filed for probate, picking such as will be of interest to the public, either on account of the man or the amount, and publishing them in outline, but often with a full list of the bequests. When it is remembered that Sir James Paget began his career in London almost penniless and supported himself for several years upon a perilously slender income of barely $400 a year, won by writing and coaching, and that he always worked from sheer love of his work and for fame, rather than for money, the accumulation of such a sum is really remarkable, and goes far to rehabilitate temporarily the now exploded superstition that virtue is its own reward.

The losses by disease of the troops in South Africa still continue remarkably low, considering that they include those of three hot-besieged and closely beleaguered towns, with a total of some 15,000 men cooped up in them. The total deaths to date from disease are barely over 600, as contrasted with 1400 from wounds, making less than one-third of the total mortality. Six hundred deaths in five months among an army ranging from 80,000 to 150,000 men makes a death-rate, roughly speaking, of only about 15 per 1000 per annum, lower than that of most cities in times of peace and only about treble the ordinary barrack rate. For almost exactly half of this number typhoid is responsible, and this mainly in Ladysmith, where it was endemic before the siege began and the water-supply badly polluted. For a time the typhoid death-rate steadily increased, but

it was fought so vigorously by the medical officers and sanitary precautions so rigidly carried out that we now have the cheering news of its rapid abatement. The same is true of dysentery, and although that indefinable and irritatingly indefinite disease "camp-fever" is slightly increasing, this is fortunately of a very mild type.

Several tropical practitioners have attempted to explain this mysterious disease during the past few weeks and the sum and substance of their statements appears to be that in the tropics, for some reason, a rise of temperature with furred tongue, headache and enteric catarrh, lasting for several days occurs very readily. The fever is clearly neither typhoid nor malaria and seems to correspond to the old "simple, continued fever" of our earlier text-books. It is possibly the tropical equivalent of our northern coryza, which is comparatively rare in hot climates; at all events, it seems to be a disease against which no preventive measures can be taken, as its origin is quite unknown.

To succeed in stamping out an already established epidemic of typhoid, in a besieged town, with a polluted water-supply, and in the height of an African summer, is certainly a triumph of modern medicine and one upon which the medical men, both army and civilian, of Ladysmith are to be warmly congratulated.

The death of Mr. Joseph Cowen, the Newcastle millionaire-statesman, has brought to light a curious little incident of some medical interest. Cowen in his younger days was an ardent revolutionary sympathizer, and his house was the hospitable refuge of half the conspirators of Europe, among them Orsini, who threw the bomb at Napoleon III., and killed more than a score of people. When Orsini was arrested for the crime his beard was jet black, but during his trial and condemnation it turned snowy white, and the change was set down as an instance of a man's hair turning white under intense emotional strain. It just so happened, however, that Orsini, on his last visit to Cowen's house, only a few weeks before his attempt, had accidentally revealed the fact that *his beard was dyed.* Hence, the change of color during his trial was simply the fading out of the dye in prison, where he had no means of renewing it. Mr. Cowen was fond of relating the story, and it well illustrates the caution with which even historical accounts of the occurrence of this remarkable change should be accepted as genuine. There seems little question that this dramatic change "and his hair turned white in a single night," does occur, but probably with scarcely a fifth of the frequency with which it is credited.

A Wash for Urticaria.—

℞ Bicarbonate of soda.....3v
Sydenham's laudanum.....gtt. xx
Boiling water.....℥xv.

TRANSACTIONS OF FOREIGN SOCIETIES

French.

PARACECAL LESIONS SIMULATING APPENDICITIS—SUBACUTE TETANUS SUCCESSFULLY TREATED BY INJECTIONS OF SERUM COMBINED WITH TREATMENT BY CHLORAL—DEATH FROM EATING PATE DE FOIS GRAS—PRURIGO GESTATIONIS.

At the Society of Surgery, January 24th, Gerard-Marchant mentioned three instances in which he had operated expecting to find an inflamed appendix, but had found instead one or more enlarged glands lying in front of the cecum. He insisted on the distinct etiology in such cases, considering the trouble to be of tubercular nature, although the examination of the removed glands had failed to show the usual tubercular lesions in them.

Jalaguier mentioned a similar case occurring in his own practice. Although the appendix appeared perfectly healthy, he nevertheless inclined to the idea that it was the cause of the glandular enlargement and that the inflammation in the appendix had subsided before operation was performed, while the secondary inflammation in the lymphatic glands situated at the ileocecal junction had persisted.

Quenu said that the term *para-appendicitis* sufficiently describes a group of inflammations occurring around the termination of the ileum and the cecum. He had observed several instances similar to those mentioned by Gerard-Marchant. In one patient who had been taken suddenly ill with the symptoms of a severe attack of appendicitis he found an appendix merely congested, while the surface of the cecum was covered with fibrinous exudate containing streptococci and coli bacilli. A very careful histological examination of the appendix failed to show any lesions whatever. Other surgeons have reported cases of ulcerative typhlitis without any appendicular lesions. The symptoms being those of ordinary appendicitis.

The discussion upon para-appendicitis was continued at the meeting of February 7th. Nimier referred to two cases of inflammation of the omentum which had been taken for appendicitis. There was presumably a relation between the epiploitis and the appendix, the appendix in his case seeming to be the starting-point for the infection.

Bazy called attention in 1895 to the part played by the cecum in inflammations in that region, but his views did not receive much consideration. Since that time many observations have been made in support of them. He mentioned one in which a girl of seventeen years entered the hospital with a tumor in the right iliac fossa. Operation revealed a mass of inflamed retrocolic glands, but no appendical lesion. In another case, an abscess was three times opened in the groin and once in the hypochrondrium, the starting-point of which was afterward proved to be the appendix.

ALBARRAN once operated for gangrenous appendicitis and found in addition to the appendical lesions two gangrenous plaques upon the cecum, although the appendix was quite a little distance removed from them. In another case the posterior wall of the ileum was the seat of a very virulent inflammation, while the lesions of the appendix were of a slight degree only. These patients had presented the usual symptoms of appendicitis.

At the session of February 14th ROUTIER related the details of a case of abscess of the spleen consecutive to an appendicitis. It is not surprising that an appendicitis like other infective processes can produce abscesses at a distance. This is a different matter from cases of inflammation of the cecum in which the appendix is not involved. And yet those who have reported such cases have usually mentioned the fact that the appendix was somewhat inflamed, and in all probability it was the starting-point of the inflammation which in the cecum or ileum or paracecal glands became more violent. Too much stress should not be laid upon such variations from the normal type.

QUENU again affirmed his opinion that the facts mentioned were indisputable and deserved recognition. There are certainly lesions in the neighborhood of the cecum which develop independently of the appendix; at least one is justified in saying so, when the histologic examination of that organ shows that there is no erosion of the mucous membrane, and no lesion of the follicles.

REYNIER mentioned an instance in which he had cut down upon what he supposed was an appendicular abscess, and found that the appendix was not involved, but that the source of the pus was a mass of broken-down glands. In another patient, with symptoms of appendicitis, the lesion was found at operation to be a ureteritis.

DELBET said that he had once found a perforation of the cecum about 3 cm. (1.2 in.) from the base of the appendix. The symptoms were those of rapidly spreading peritonitis. The advantage of the term para-appendicitis is a questionable one. For his part he does not see why lesions which have nothing to do with the appendix should be called para-appendical.

At the Medical Society of the Hospitals, February 2d, PETIT spoke of the cure of two patients suffering from subacute tetanus, by the injection of antitetanic serum, and the administration of large doses of chloral. One patient who worked in a slaughter-house was wounded in the thumb. One week later he experienced pain and contractions in his arms, followed by trismus, opisthotonus and contractions of the muscles of the limbs and thorax. He was given one injection of antitetanic serum daily, and from 12 to 18 grains (3 to 4.5 drams) of chloral. A second patient, who was wounded by a plank in the scalp, and who did not develop symptoms for three weeks, was treated in the same manner. Both of these patients recovered, the first having received 590 c.c. (20 oz.) of serum in 21 days, and the second 560 c.c. (19 oz.) in 17 days.

MERKLEN and RENDU also mentioned cases in which the plan of treatment described had been followed by recovery.

VAQUEZ related a case in which small doses of the serum had failed to avert death, and said he considered that a fatal end might have been prevented had much larger injections been employed.

At the session of February 16th PAPILLON described the results of an autopsy upon a man who had died as the result of eating spoiled pâté de fois gras. Soon after the meal anurticaria broke out, followed by symptoms similar to those seen in cholera. The most important lesions were found in the liver and kidneys. In the former there were foci of parenchymatous hepatitis and an infiltration of yellow pigment into the hepatic cells. This pigmentation, probably of hemic origin, ought to direct attention to the blood in cases of alimentary poisoning. The epithelium of the kidneys was almost entirely necrotic, and the appearances presented by the organs were almost identical with those produced by virulent microbic toxins.

At the Society of Dermatology and Syphilography, February 1st, GASTOU showed a pregnant woman whose forearms were the seat of a well-marked prurigo. This affection recurred with each pregnancy and disappeared entirely in the intervals between them. The lesions were solely papular and recalled those of a parasitic prurigo. Prurigo gestationis is due to an autointoxication, as shown by the decrease in urea, chlorides and phosphates, and the presence of pigments in the urine. In selecting the treatment the doctor should bear this fact in mind. The patient should be kept in bed, and the utero-ovarian difficulties which so often precede the prurigo of gestation should also be treated.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON MEDICINE.

Stated Meeting, Held Tuesday, February 20, 1900.

John H. Huddleston, M.D., Chairman.

Lymphocytes in Typhoid Fever.—Dr. A. H. Gardiner read a paper in which he detailed his observations on the blood of typhoid fever patients and also those suffering from other diseases. His conclusions with regard to typhoid are as follows: Only very exceptionally does leucocytosis occur during the course of typhoid fever. Practically always there are fewer eosinophiles than normal in the blood of typhoid fever patients. Among the leucocytes the lymphocytes exceed in number the polynuclear white blood cells. The small lymphocytes exceed the large lymphocytes in number.

In discussion Dr. Adler said that the counting

of the blood in detail as has been done by Dr. Gardiner would probably give us important data on the pathology and physiology of the blood. A number of important questions with regard to the blood are as yet undecided. It is not definitely known that lymphocytes give rise to the polynuclear leucocytes, nor is it clear where either of these forms of cells originates. Studies so far undertaken seem to indicate that the importance at present attached to phagocytosis is too great. Leucocytosis is not a reaction of the system for the elimination of irritants, but is a renewed activity of blood-making organs of white blood cells usually indicating a speedy return to health.

Membranous Colitis.—Dr. William H. Thomson read a paper on this subject. It will appear in a later issue.

Amœbic Colitis.—Dr. H. R. A. Graser made a report on three cases of amœbic colitis. One of them was a hotel-keeper, aged thirty years, who had never been out of New York City. He was having four to six rather liquid stools a day, foul-smelling, streaked with blood and containing a good deal of mucus. He had lost thirty pounds in weight, was suffering from night-sweats, although he had no cough and had never had any. His temperature and pulse were normal. He was treated by the mouth with resorcin for some days and improved so much that he considered himself cured. It was not long, however, before all his old symptoms recurred. Amœbæ were found very plentifully in his stools and he was put on appropriate treatment.

The second case was of a machinist, who had never been farther from New York than Staten Island. He, too, had lost considerable flesh and was suffering from frequent, foul-smelling, bloody and mucous stools. His abdomen was tender to the touch and he had considerable tympanites. Amœbæ were found in his stools. The third case had traveled in the tropics. In this case Charcot-Leyden crystals were found in the stools, as well as plentiful amœbæ. Others have reported these crystals as occurring in the stools in amœbic colitis.

The best treatment is calomel internally in divided doses continued for a number of days. Quinine seems to be the best local treatment. After an injection of quinine it is usual to find the amœbæ motionless.

It is extremely difficult with any certainty to recognize dead amœbæ in the stools. The stools should be received in warm vessels and should be examined as soon as possible on the warm stage of the microscope. The parasites will then usually be found in the mucous material on the surface of the fecal masses or in the midst of mucous bodies that occur here and there in the stools. Whether these parasites are really pathogenic or not is an open question. Experimentation on animals has not thus far succeeded in demonstrating their pathogeneity with any assurance.

There seems to be no doubt, however, that we have in temperate climates, and especially here in New York, an endemic colitis seemingly due to the amœbæ, or at least always accompanied by the presence of this parasite in the stools. The subject is deserving of further careful investigation.

Dr. H. Brooks reported eight cases of the disease from the fourth service of Bellevue Hospital. Four cases also were noted in private practice. The disease is evidently not rare in New York and is endemic. In six of the cases the infection seems to have taken place outside of New York City, but two of the patients were certainly infected here. The characteristic symptom of the disease is the presence of crampy muscular pains in connection with frequent ill-smelling stools. Cramp in the calves is especially noted. So much so that it has almost become the rule to look for amœbæ if a patient comes into the hospital complaining of cramps in the calves and increased frequency of stools.

Technic for Detection of Amœbæ.—It is very necessary if the amœbæ are to be kept active that the stools should not be allowed to become cold. For this purpose the bedpan should be kept warm. If the stools are acid when passed the acidity should be neutralized with sodium bicarbonate.

The slide on which the specimen is examined should be warm. Even after apparent death they may be aroused into activity by warmth. In the tissues the best stain is thionine. The intensity of the colitis is in direct proportion to the number of amœbæ that are present. Quinine renders the parasites non-motile.

Prognosis of Colitis.—Dr. Crooks said that the prognosis of the chronic form of colitis depends a good deal on the lesions that accompany the disease. For prognosis careful diagnosis is also necessary. Cirrhosis of the liver and Bright's disease, besides other constitutional conditions, sometimes gave rise to, or favor the progress of, a colitis and necessarily make the prognosis very unfavorable. For tubercular and carcinomatous colitis the prognosis is that of the underlying disease. Chronic dysentery as a rule is the opprobrium medicorum and it has not lost its terrors even with all our modern methods of treatment.

Treatment.—Dr. Kemp's tube for colonic injections was presented and described. The instrument should be introduced with a rotary movement, and if the flow stops the tube should be rotated until the flow is free again. If the outflow-tube becomes blocked the end of the tube attached to the syringe should be fastened to it so as to clear it out. The water should be allowed to flow back in a steady stream and not by gushes as there is some danger of injuring the mucous membrane at the end of the tube should it be sucked into the openings. The outflow may be made rebular by slight pressure on the outflow tube, the pressure being regulated according to the height of the injection desired.

Dr. Morris said that there are two conditions which by interference with the intestine may give rise to mucous or membranous colitis. A floating

kidney, for instance, may so interfere with the colon as to cause a functional disorder. Enteroptosis is liable to produce the same effect.

Dr. Franklin said that in Central America, where colitis is quite common, internal medication is usually considered to do no good and local medication alone is employed. Where milder solutions do no good strong solutions are frequently employed. An injection of four ounces of nitrate of silver solution, of the strength of ten to twenty-five grains to the ounce, is sometimes employed with success where weaker solutions are ineffective. Morphine must be given some time before the injection in order to allow its retention. Since employing these strong solutions in very severe cases, Dr. Franklin has not lost a case and he has a good deal of confidence in this method of treatment. Despite its severity patients who have been benefited by this method once asked for it again. Quinine by injections has been found to do good, but is not so effective.

Amœbic Dysentery in Animals.—Dr. Graser mentioned the fact that Professor Quincke had recently published a series of observations on the effect of amœbæ on animals. He had found that there were two forms of the amœba, the *amœba mitis* and the *amœba fellis*. The amœba mitis or mild form is obtained from patients suffering from the endemic colitis of temperate climates. This form of the parasite is not pathogenic for cats. Large quantities of the stools from such patients may be injected into the intestines of cats without producing dysentery. The amœba fellis, on the contrary, is pathogenic for cats. It is obtained from patients suffering from amœbic colitis acquired in the tropics. This form of the amœba may be readily recognized by the fact that red blood-cells are found within it. When injected into cats this organism produces frequent bloody and mucous stools and finally leads to a fatal termination.

Dr. Adler said that in cases of dysentery admitted to the German Hospital the stools are always examined for amœbæ. Protozoic dysentery is much commoner than has been thought. The fauna and flora of the intestinal tract are not well known. It has become a text-book dogma that amœbic dysentery occurs only in the tropics. There is no doubt, however, that there is an endemic form of a protozoic dysentery here in New York. The amœbæ that occur on the Isthmus of Panama and in Egypt are very different from those found in the stools of patients who have never been outside the temperate zone. The endemic form of dysentery is not difficult to treat. Relief of symptoms is, however, much more frequet than permanent cure. Even after well-formed stools have been occurring for some time, amœbæ may be found in them. This is the secret of the frequent recurrences which take place. The best internal antiseptic is undoubtedly calomel. It invariably kills the amœbæ. None of the other intestinal antiseptics are as efficient. Salol, dermatol and tannalbin have been tried but without the good results obtained from calomel.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held Monday, February 19, 1900.

The President, Frederick Holme Wiggin, M.D., in the Chair.

The subject of the evening was a discussion on anesthetics.

Selection of the Anesthetic.—Dr. John A. Wyeth said that no one anesthetic was the most desirable for all cases. The anesthetic should be selected with due regard to the condition of each patient. No matter what the anesthetic, less of it will be required if morphine is given some time before. Chloroform has many advantages as an anesthetic, but the heart should be watched very carefully during its administration. Mere rapidity of pulse makes very little difference, but if cardiac irregularity develops the chloroform should be removed for a time at least, to see whether or not reaction to normal takes place promptly. If great pallor of the face develops the patient's head should be allowed to sink back below the level of the body, or the patient should be put in the Trendelenburg position. It is preferable to operate always on a table on which the patient may be readily put in this position. If the irregularity of the heart continues, or if other symptoms show that the patient resents chloroform after a careful trial, the anesthesia should be continued with ether. If there is any kidney trouble, after a few minutes of ether anesthesia chloroform may be resumed. The difference in the irritant effects on diseased kidneys of the two anesthetics is enough to justify one in trying every possible means to administer chloroform provided it can be done without serious danger to the patient. The greatest precautions will be required, however, and these cases demand a skilled anesthetist. If at any time during the administration of an anesthetic the pupils should suddenly dilate, the anesthetic must be stopped at once for some time. One of the great dangers of anesthesia is the bringing of patients under the influence of an anesthetic too suddenly. Fifteen or twenty minutes should be taken at least to bring a patient quietly under the influence of chloroform. Ether should not be administered through an open inhaler. The Allis instrument, for instance, is extremely objectionable because the air that is inspired is lowered greatly in temperature by the evaporation of the ether, and is carried directly into the lungs, where it is sure to be a source of serious irritation. Within the closed inhaler, as for instance the Ormsby apparatus, the air is continually reinspired and kept at a uniform temperature not very far from the temperature of the body, and the reinspired air produces a modified asphyxia which aids the ether in the production and maintenance of the anesthesia. This asphyxia can be controlled as well as any form of anesthesia, and is of great help. Where the closed inhaler is used patients

come out from under the influence of the anesthetic sooner, there is apt to be less vomiting, and there is considerably less irritation of the respiratory passages than when the anesthesia is conducted by the open method. Considerably less ether is used by this method, and where there already exists any chronic inflammatory condition of the air passages, or any chronic nephritis, the irritation is proportionately less than by the other method.

Safety of Anesthetic.—For the tyro in the administration of an anesthetic, ether, as a general rule, is probably safer than chloroform. For the expert anesthetist chloroform is at least as safe. Where kidney trouble exists chloroform is to be preferred. Where chronic tuberculosis of the lungs is known to be present, or where chronic bronchitis exists, chloroform usually gives the best satisfaction. There are many who prefer ether where the heart is crippled. For abdominal operations chloroform is the best, because it produces less tendency to vomiting afterward. It should always be employed if the heart is not involved and its compensation seriously interfered with by chronic valvulitis or endocarditis. There is considerable danger in the use of chloroform after repeated attacks of rheumatism, or where arteriosclerosis exists or fatty degeneration is suspected. For alcoholic patients, as a rule, chloroform is preferable, because ether must be employed in very large quantities and even then may be ineffective. For children ether is the better anesthetic, although the text-books as a rule teach differently. Within the last few years Dr. Wyeth has seen three deaths in children under twelve from the use of chloroform where only minimum amounts of the anesthetic were employed. There is danger especially with poorly nourished children and those that are very much frightened by the anesthetic and struggle against its use. The anesthetic should not be forced on children if possible, but they should be persuaded into gradually coming under its influence.

Amount of the Anesthetic.—Dr. Thomas L. Bennett said that most of the dangers of anesthesia come from the use of more of the anesthetic than is absolutely necessary for the production of the condition of insensibility necessary for operative procedures. The amount of the anesthetic, no matter which one it may be, bears a direct proportion to the amount of shock, exhaustion, pulmonary edema, pneumonia, or nephritis that develops after the anesthesia. Ether is the most irritant of the anesthetics, must be used in larger amount and gives rise to most nausea and vomiting. Bronchial pneumonia is a complex affection, but is mainly due to the anesthetic. The aspiration of saliva in large quantities into the pharynx and from here into the lungs cannot but prove a source of infection. The pneumococcus exists very often in the mouth and is thus often drawn into the lungs, setting up an inflammation. In patients whose kidneys are affected before the operation, just as little as possible of the anesthetic should be used. About the age of puberty many children require a large amount of an anesthetic. The same is true for drinkers and for many nervous people. Certain operations require that the patient should be more deeply under the influence of an anesthetic and so necessitate an increase of the amount to be used. All operations on the rectum, on the urethra, and the perineum are of this kind. The amount of an anesthetic to be used in any given case depends to a large extent on the anesthetist. A skilled anesthetist will use must less than one who is unused to the administration of anesthetics. In 65 New York Hospital cases in which the amount of anesthetic and the length of the operation were carefully noted, 3732 minutes of anesthesia required 275 ounces of ether. The average length of the operation was 57 minutes, and the average amount of ether required was 4¼ ounces. As a general rule it may be said that about 4 ounces of ether will be required for the first hour of anesthesia and about 2 ounces for the second hour. Of chloroform about an ounce per hour will be required.

Nitrous Oxide for Long Operations.—Dr. S. Ormonde Goldan read a paper on the use of nitrous oxide and its modifications by mixture with carbon dioxide or pure oxygen for prolonged surgical operations. For a long time it was thought that nitrous oxide could not be used for anything but short operations, such surgical procedures as could be accomplished between the time of the removal of the anesthetic and the coming to of the patient. Of late, however, it has been found that where other anesthetics are contraindicated, nitrous oxide can be used even for lengthy operations. In abdominal operations it is often urged that nitrous oxide fails to produce relaxation of the abdominal walls. If the legs are flexed, however, the abdomen becomes thoroughly flaccid. Vaginal examinations can be accomplished in this way very satisfactorily under nitrous oxide anesthesia. For gynecological operations the failure to obtain complete relaxation of the abdominal walls is sometimes annoying. Nitrous oxide may be used until the incision of the peritoneum and then ether substituted. Nitrous oxide combined with carbon dioxide has certain advantages. There is apt to be less headache after the anesthesia than when nitrous oxide is used alone. Nitrous oxide is combined with oxygen to prevent cyanosis. It is often very difficult, however, to obtain complete anesthesia with this combination and great skill is required in the administration of the anesthetic. Some patients cannot be brought sufficiently under its influence to dull their sensibilities properly for surgical procedures. As a general rule it may be said that nitrous oxide is not more expensive than the other anesthetics. It has many advantages, especially for the beginning of anesthesia, and is less expensive than ether.

Ethyl Chloride as a General Anesthetic.—Dr. James P. Tuttle detailed his experience with this substance as a general anesthetic in 40 cases. He used the ethyl chloride for the beginning of the

anesthesia and then substituted ether. He is able to produce insensibility in this way in from two to seven minutes. The ethyl chloride is sprayed on the lower surface of an Esmarch inhaler and given as ether is, then an Ormsby inhaler is used to continue the anesthesia with ether. There is no nausea nor vomiting after the anesthesia, and in only four cases was there failure to secure prompt insensibility to pain. In two the result was unsatisfactory. One of them was an anemic patient in whom the ethyl chloride did not take effect for twenty-five minutes and ether had to be substituted. In the other case after fifteen minutes of ethyl chloride ether was substituted, but in neither of these cases did the previous administration of the ethyl chloride seem to retard the effect of the ether. Two other patients, although susceptible to the ethyl chloride, proved absolutely insusceptible to the ether, and chloroform had to be administered to them. As a rule about ten to twenty c.c. of ethyl chloride were employed.

Complicated Inhalers.—Dr. Hobart Amory Hare of Philadelphia, present by invitation, opened the discussion. He said that the fad for complicated inhalers had come from London. Personally he is opposed to cumbersome apparatus which have no distinct advantage and have many decided disadvantages. The tube of the nursing-bottle is a good example. The new-fangled inhalers undoubtedly may prove as fruitful a source of infection and of pulmonary accidents as the fatal nursing-tube. For some of them sterilization is practically impossible because infinite precautions would be required. He is happy to say that the surgeons in Philadelphia seem to be perfectly satisfied with the simplest form of inhaler. Ether is probably the safest anesthetic, but it should be given with as much fresh air as is compatible with anesthesia. When ether is given by the closed method other factors enter into the result. The carbon dioxide from the unexpired air produces a certain amount of asphyxia and the patient is benumbed by the organic material which exists in the expired air and is reinspired. We now know that the danger of rebreathing air is not so much because of the larger percentage of carbon dioxide which it contains as because of the organic material thrown off from the lungs and which exists in the expired air in dangerous amount. This causes the heavy, drowsy feeling that occurs in badly ventilated rooms and is the source of the headache and nausea which is so often complained of when people remain for long periods in air that is not changed often enough. Bag inhalers seem unnecessary and unwise. There is too much routine in the giving of an anesthetic. A man accustomed to ether always gives ether; one accustomed to chloroform, always chloroform. The anesthetic should be selected according to the condition of the patient. Where the kidneys are affected chloroform is preferable to ether. It is surprising to hear Dr. Wyeth declare that chloroform is more dangerous for children than ether. Ether is certainly objectionable because it is more irritating to the delicate mucous membrane of the child and easily gives rise to capillary bronchitis. Fright is an important element in anesthesia in children and it is avoided to a great extent by the use of chloroform.

Vasomotors in Anesthesia.—The danger in giving an anesthetic seems to be mainly due to interference with the vasomotor mechanism. The patient may bleed to death in to his own blood-vessels. It is vasomotor palsy, not heart failure, that causes death. Dentists, who administer ether to their patients in an erect posture have more deaths during anesthesia, proportionately, than surgeons who administer it to recumbent patients. In a gynecological operation not long ago, the patient became pulseless, no apex beat could be felt and the heart was beating extremely irregularly and weakly. The ordinary measures did not revive the patient and a fatal termination seemed imminent. The abdomen was already open, and Dr. Hare suggested that the operator should grasp the abdominal aorta and compress it. This confined the circulation to the upper part of the trunk and head, and the patient began at once to revive. A similar attack happened a little later and again the patient was revived by this means. The vasomotor system is just as important as the heart, and a surgeon should be assured of its condition before anesthesia. Atropine is often recommended for its good effects during anesthesia, especially when chloroform is used, and the reason seems to be because it is a good vasomotor stimulant. An excellent precaution in very weak patients would be to apply an Esmarch bandage to the arms and legs and even a compress to the abdomen before anesthesia in order to made the blood stay in the head and thorax. Finally, it is to be remembered that the amount of an anesthetic given for the production of anesthesia in any given case depends to a large extent on the anesthetizer. If he is skilful much less can be used.

Precautions in Anesthesia.—It is sometimes said that the head of the patient should be well extended, hanging somewhat backward, because in this position the epiglottis is pulled forward. In this position, however, the soft palate presses down upon the tongue and makes breathing through the mouth difficult. If the head is put forward in the position assumed by athletes in running, the epiglottis is raised just as effectually as before and the soft palate does not press down upon the tongue. This position may be secured by turning the patient's head to one side. With the fingers to keep the jaw well forward and the head in this position, tongue forceps will not be needed as a rule and sore tongues will be avoided.

Morphine administered before the anesthesia often lessens the vomiting. If given with $^1/_{100}$ to $^1/_{100}$ of nitroglycerin there will often be no vomiting at all. Nitrous oxide is dangerous where atheroma exists. It is always a dangerous anesthetic in advanced life. Dr. Hare has seen a death from hemorrhagic apoplexy in a dentist's chair after nitrous oxide anesthesia.

Anesthetics and the Kidneys.—Dr. Kemp said that the safest anesthetic, as far as irritation of the kidneys is concerned, is nitrous oxide mixed with oxygen. Where patients are old, however, and atheromatous conditions exist, nitrous oxide is contraindicated. Chloroform comes next in order in its lack of irritation of the kidneys. Ether is last and worst. Ether should always be administered after preliminary anesthesia with nitrous oxide. The A.C.E. mixtures and Schleich's mixture possess no advantages over the simple anesthetics so far as regards the irritation of the kidneys and they have all disadvantages of the separate constituents.

Safety of Nitrous Oxide.—Dr. Hasbrouck, a dentist, said that he has administered nitrous oxide some 95,000 times during the last forty years without a single fatal result. Patients go under the anesthetic almost imperceptibly to themselves and with a feeling of pleasure, not discomfort, if the anesthetic is properly administered. In over 500 cases he has administered the anesthetic for over an hour. Only in very exceptional cases is there an idiosyncrasy for nitrous oxide which makes its use as an anesthetic impossible. It is important for successful anesthesia that the tubes leading to the inhaler mask should be of good size. As a rule they are made too small and the gas is not supplied fast enough to maintain anesthesia. The tubes should be at least as large as the human trachea and should not be closed by cumbersome valvular mechanism.

Chloroform vs. Ether Mortality.—Dr. Dawbarn said the trend of Dr. Hare's remarks had been something of a surprise and he would devote his five minutes to a partial reply. Dr. Hare had strongly disapproved of the air-bag inhalers for ether, and advised adhering to the use of the towel-and-paper cone, or to the Allis inhaler. Also, by his obviously strong approval of the Philadelphia use of ether only, and disparagement of chloroform, he invited inevitable and unfortunate comparison with other cities. In London, New York, and many other surgical centers it is now understood that the Clover air-bag principle is by far safer than the towel-and-paper, or Allis or other open contrivances. This safety is due to the fact that the ether is rebreathed and promptly warmed up—thus avoiding ether pneumonia, due to chilling the lungs. The carbon dioxide anesthesia which meanwhile is added is a safe form and, as Dr. H. C. Wood has pointed out, is not objectionable. In addition, the closed-bag principle permits anesthesia with very little ether and consequently the kidneys and other organs are much less irritated. Dr. Hare's assertion that as much ether is actually taken up and held in the body by the closed bag as by the open method is plainly seen to be absurd, when we remember that by the latter plan the ether smell can always be noted for at least twenty-four hours upon the breath; while by the former method its odor disappears several hours earlier.

The famous von Nussbaum stated that he had in his long experience used, or seen used, chloroform forty thousand times without a death. And if this be true, a death from this cause implies improper training as an anesthetist. On the other hand, we have the recent and startling statement by Dr. Kemp, with Prof. Thomson, President of the Academy of Medicine, and published in the *New York Medical Journal* to the effect that his study of the vital statistics for a year past in one of the largest and best of the New York hospitals showed one death in each nineteen operations, from ether suppression of urine, *post-operationem*, where the urine beforehand had been tested and found normal! This is a frightful statement. Towel-and-newspaper cones and Allis inhalers were used during this period—and seem responsible for such soaking of the kidneys with ether. It seems likely that a closer study of death-causes in all hospitals would surprise the profession in this regard. Since that time Dr. Kemp has made a similar investigation in a second large hospital, with a practically identical result. It seems fair to say that when at an Academy meeting Dr. Kemp made the above statement, a surgeon of the hospital arose and denied the accuracy; whereupon Dr. Kemp was ready with all the data, the name, page of history-book, date, etc., and no more rebuttal against him was ventured.

I think it is something of a disgrace to our profession that now, some sixty years after the introduction of anesthesia, there should be a difference possible as to the wisdom of using, prior to major anesthesia, alcohol, and a little morphine guarded by atropine. For many years past this has been a routine plan; and to it, as much as to the closed bag in ether cases, is attributed the patient's invariable safety from anesthesia death. There are two or three reasons for this practice: First, all these drugs are analgesic; hence less ether or chloroform will be needed; hence less danger of poisoning from them. Again, all these drugs are supportive to the heart, and tend to prevent shock; the atropine is an excellent vasotonic stimulant—as Dr. Hare also agrees—and finally, but by no means least important, a patient so prepared goes to the table in quite a calm, almost cheery frame of mind, instead of one of agitation and fright.

If, as Dr. Hare has said, this fright deals death to the high-bred dogs subjected to the knife, how much greater is such terror a factor among human beings! We ought never to forget this. It is a most important cause of deaths during the early stages of anesthesia; perhaps is even the chief factor; and to make our patients calm and courageous is to add greatly to their safety while being anesthetized.

Ether and Suppression of Urine.—Dr. Bodine recalled the fact that Professor A. H. Smith had found on mixing acid, urine and ether that a gelatinous material resulted. It is perhaps the formation of this gelatinous material in the kidney tubules that causes their mechanical occlusion and so leads to suppression of urine. This gelatinous product does not result if the urine is

alkaline. It is well, then, before the administration of ether as an anesthetic to make the urine alkaline. There is no doubt that some people are made much less resistant to the shock of operation by the fright which they feel at the prospect of the operation. It has often been noted that people who suffer from a severe accident, which they foresaw for an appreciable time before it occurred, suffer much more from shock than, for instance, those who get hurt in sleeping-car accidents and who consequently have no chance to anticipate the danger. A preliminary dose of morphine allays this fright and so makes the anesthetic safer. In obstetrics there is no fright; the pain to come is looked on as only natural. Hence the better statistics of anesthetics in obstetrical practice.

Schleich's Mixture.—Dr. Maduro insisted that much of the unpopularity of Schleich's mixture is due to the objections of those who have had no practical experience with it. In a large number of cases the mixture has been used successfully and no deaths have been reported from its use. The serious symptoms which develop are not as alarming as those of chloroform or ether, and it is always easier to restore the patient. Meltzer disagrees completely with Schleich's observation in the matter of the effect of the anesthetic. It is a question of the authority of either investigator, but the subsequent observations made by Meltzer do not invalidate Schleich's original conclusion.

In concluding the discussion Dr. Hare said that it was not so much the amount of ether used as the amount of irritation it produced that harmed the patient. In the closed inhaler ether is breathed and rebreathed a number of times; naturally, less ether is used than by the open method. But if one ounce of ether is rebreathed ten times it produces as much irritation as ten ounces of ether breathed but once. With regard to the safety of anesthetics during parturition it must be remembered that pain is a stimulant to the vasomotor system and, consequently, there is less danger in anesthesia while labor-pains are in progress. As Professor Wood's opinion had been quoted in the present discussion, and as one of the speakers had insisted that the question of anesthesia was for the surgeon and not for the medical man who knows the theory but not the practice of the subject, he begged leave to be allowed to quote another of his Philadelphia colleague's expressions. When asked on the witness-stand what was the difference between a physician and a surgeon, Professor Wood said: "A physician is a man who works with his brain; a surgeon one who works with his hands."

REVIEWS.

Transactions of the Luzerne County Medical Society for the year 1899. Published by the Society, 1900.

We have before us a very neatly compiled and bound number for the year 1899, which does credit to the editors and authors. Chief among the articles is one on cancrum oris with a description of the condition, written by Dr. James Brooks. He cites a case of recovery from this condition after a plastic operation had been performed. An article on cancer well merits the perusal of the reader, and the author's conclusions are well in accord with the most advanced theories on this topic. Dr. Wm. G. Weaver, the writer of the article, states that (1) cancer is a disease produced by a parasite; and is a communicable or infectious disease; (2) the hereditary idea of the production of cancer is no longer tenable; (3) cancer being an infectious disease, all the usual precautions against infection should be observed; (4) cancer is not only infectious, but autoinfectious and in operations for the removal of cancerous growth, the possibility of infection should be constantly borne in mind. Besides a very interesting address of the retiring President, Dr. John Harris Jones, on "Some Stray Thoughts In and Out of Medicine," there are further important essays and contributions on pneumonia, empyema, leucemia, Parkinson's disease (paralysis agitans), serum test for typhoid fever, mastoid disease, and general medical topics.

Transactions of the American Ophthalmological Society. Thirty-fifth annual meeting. New London, Conn., July, 1899. Hartford: Published by the Society, 1899.

Although nothing startlingly new was presented, the meeting of 1899 was quite successful, 68 members being in attendance and 21 papers being read. The report is a profusely illustrated volume of 125 pages. The papers which excited most discussion were one by Johnson of Paterson, on the extraction of iron particles from the eye by means of the electro-magnet, and one by Williams of Boston, on more uniform tests of acuteness of vision, color sense, and hearing. Thompson of Philadelphia, and Dennett of New York were appointed a committee to report at the meeting of 1901 on the matter of standards and the best methods of making examinations of sight and hearing with particular reference to the marine and railway services.

Operative Surgery. By Joseph D. Bryant, M.D., Professor of the Principles and Practise of Surgery, Operative and Clinical Surgery, in the University and Bellevue Hospital Medical College; Visiting Surgeon to Bellevue and St. Vincent's Hospitals; Consulting Surgeon to the Hospital for the Ruptured and Crippled, Woman's Hospital, and Manhattan State Hospital for the Insane; Fellow of the American Surgical Association; former President of the New York Academy of Melicine; President of the New York State Medical Association, etc. Vol. I., with 749 illustrations. New York: D. Appleton and Company, 1899.

The fact that the third edition of this well-know treatise more than doubles its size, neces-

sitating its division into two volumes each as large as the original one, is indicative not only of the growth of an individual work, but is also significant in that it shows in a striking manner the advances recent years have seen in the development of the purely technical side of surgery. While the work of the pathologist and bacteriologist has been illuminating many of the more obscure corners of the science and exposing to the day-light of definite knowledge what formerly was accessible only to groping empiricism, the operator himself has not been less industrious than his aides and each advance in the understanding of etiology and morbid anatomy has been quickly supplemented by some improved diagnostic or operative measure.

In no other section, perhaps, is this more evident than in the field of brain surgery. For example, while in the first edition of this manual fifteen pages were sufficient to cover the entire matter of the surgery of the nervous system, in the present one nearly one hundred are given to the same subject. In a similar way the chapter on plastic surgery has been almost doubled and, in fact, the book is practically an entirely new one based simply on the skeleton of the old. The illustrations are unusually numerous and well selected; a novel and interesting feature is the grouping for each of the more important operations in a single photograph of all the instruments needed in performing it.

This volume considers General Principles, Anesthetics, Antiseptics, Control of Hemorrhage, Treatment of Operation Wounds, Ligature of Arteries, Operations on Veins, Capillaries, Nervous System, Tendons, Ligaments, Fascia, Muscles, Bursæ, and Bones, Amputations, Deformities and Plastic Surgery, and the pleasure it inspires causes one to look for the appearance of the second with much interest.

The Principles and Practice of Modern Surgery. For the use of Students and Practitioners of Medicine and Surgery. By JOHN B. ROBERTS, M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. New (2d) and revised edition. Octavo, 838 pages, with 474 engravings and 8 plates in colors and monochrome. Philadelphia and New York: Lea Brothers & Co., 1899. (Price, $4.25.)

THE purpose of the author of this work is to give to the profession in a condensed form the accepted doctrines and approved procedures of modern surgery. About one-fifth of the volume is devoted to surgical pathology, asepsis and surgical technic. In the second part the surgical diseases and injuries of the various portions of the body are systematically considered, usually under the three headings "pathology," "symptoms," "treatment." In every chapter it is evident that the writer has had constantly in mind a resolve to make this volume an every-day help to the surgeon, for he has given special attention to "treatment," and his directions are clear, concise, and easily understood.

The subjects treated make up the whole of general surgical practice, and the student who masters this book will have an up-to-date knowledge of surgery. The weak point of a revised book usually is that so much of the old remains, even although obsolete. Dr. Roberts has pruned with a free hand, and as a result he has saved himself from this criticism. The articles on Appendicitis, Diseases and Injuries of the Joints, Diseases and Injuries of the Genito-Urinary Organs, Dislocations, Excisions and Amputations, have been entirely rewritten.

The book is profusely illustrated, as the author has not hesitated to draw upon the latest surgical works of America and Europe for their best drawings, to which he has added many new ones of his own, including several radiographs.

The Trained Nurses' Directory. Composed of Names Carefully Selected by Prominent Physicians and Surgeons of New York and Vicinity from Their Private Lists. Compiled and Edited by M. Louise Longeway, Graduate of the New York Training School, Bellevue Hospital. Sixth Edition. 1899.

THIS handy memorandum book serves a number of useful purposes. It contains a classified list of graduates of the various training schools in and about New York, with lists of graduate trained nurses practising in Albany, Pittsfield, Hartford, New Haven. The addresses are given where the nurse may be found and if special nursing is done this in indicated. Lists of masseurs, medical stenographers and type-writers, street lists of New York and Brooklyn, obstetrical tables, office nurses, registers and nurses' homes and the training schools of New York and Brooklyn are presented in small compass. The work should find a useful place in the world of reference books.

Refraction and How to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, etc. By JAMES THORINGTON, A.M., M.D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Surgeon at Wills' Eye Hospital, etc. Two Hundred Illustrations, Thirteen of which are colored. Octavo. 301 pp. P. Blakiston's Son & Co., Philadelphia, Pa.

THIS book is the result of the author's lectures on Refraction at the Philadelphia Polyclinic, and is written (the preface states) "for beginners in ophthalmology, especially for those with a limited knowledge of mathematics." It is an attractive volume, numerously illustrated.

It begins with a chapter (about 50 pages, with many illustrations) devoted to a clear and elementary discussion of optics, which is followed by another on the standard eye, accommodation, convergence, and the angle gamma and alpha; then come chapters on the ophthalmoscope, the

various refractive errors, retinoscopy, muscles, cycloplegias, "How to Refract," and applied refraction.

There is much useful information contained in the book, which is quite practical. It will be found of great assistance to those who are taking courses on refraction at our clinics, or who desire to acquaint themselves with the various methods of examination in this important department of ophthalmology.

A Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D. Third Edition. Revised. Philadelphia: W. B. Saunders, 1899.

THE popularity of this work among students and practitioners is evinced by the fact that three editions have appeared within two years. The second edition, issued less than a year ago, did not receive any notable revision. This, the third edition, however, has been quite extensively revised, especially in the section relating to Infectious Diseases. The following subjects not found in the previous editions have here found a place, to-wit: Glandular Fever, Ether-Pneumonia, Splenic Anemia, Neuralgia Paræsthetica, and Periodic Paralysis. The subjects of the Plague, Malta Fever, the Diseases of the Thymus Gland, the Cirrhosis of the Liver, and Progressive Muscular Atrophy have been practically rewritten. The introductory chapter on the Diseases of the Nervous System, dealing with localization and methods of investigation, is also new. Six new illustrations have been added. There can be no doubt that the work has been improved by these additions and alterations. The revisions have brought the subjects up to date.

The popularity of the book is doubtless due to the facts that the subjects are adequately described, clearly and succinctly presented, and offer to the student the facts of disease in an accessible and ready manner.

The Rise and Development of the Liquefaction of Gases. By WILLETT L. HARDIN, Ph.D. New York: The Macmillan Co., 1899.

THE volume before us treats in a most exhaustive manner of the history of the development of this branch of science, both as regards the theory and the methods employed in the liquefaction of gases. Both the practising physician, as well as the histologist and other research workers, are constantly using compressed or liquefied gases, such as oxygen, nitrous oxide, carbonic acid (for freezing fresh material to be cut by the microtome), and other gases, and it may be of interest to them to consult this work in order to inform themselves upon the processes of their manufacture. The recent methods adopted by Professor Dewar for the liquefaction of oxygen, air, nitrogen, etc., are also most ably discussed.

The last chapter deals mostly with the discussion of the physiological action and effect of low temperatures, the work of Cohn, Melsens and others on the action of low temperatures on bacteria and ferments being dwelt upon, the uselessness of low temperatures for sterilization being especially pointed out. The effect of low temperatures upon rabbits and frogs is also cited, and the investigations of Pictet and Dewar are briefly sketched. The book is well arranged and furnished with a most comprehensive index.

General and Local Anesthesia.—By AIME PAUL HEINECK, M.D., Clinical Instructor in Genito-Urinary Diseases, College of Physicians and Surgeons, Chicago; Clinical Instructor in Gynecology, Chicago Clinical School; Clinical Instructor in Surgery, Northwestern University Woman's Medical College. C. P. Englehard & Co., Chicago, 1900.

THIS monograph consists of 125 pages, devoted about equally to general and local anesthesia. It is arranged in two chapters, and comprises subdivisions or headings, as, the general use of chloroform and ether only; in obstetrics, for diagnostic, surgical and therapeutic uses; the selection of the anesthesia; posture and preparation of patient; rules for the administration of chloroform and ether, and precautions before and after; treatment in cases of accidents; methods of applying local anesthetics; the use of cocaine in the nose and throat; in genito-urinary surgery; precautions in cocaine anesthesia; and infiltration anesthesia and its technic.

The book abounds in many practical hints. The subject of anesthesia by nitrous oxide, however, either alone, or with oxygen, or to precede ether, is entirely omitted. The use of this important anesthetic is too important to be passed with simple mention. The chapter on local anesthesia is excellent, practical, and complete.

THERAPEUTIC HINTS.

Oil for Pyloric Stenosis.—Cohnheim reported a case seen in Boaz's clinic, in Berlin, of dilatation of the stomach apparently due to stenosis of the pylorus following traumatism (contusion of the abdomen, probably causing rupture of the mucous membrane, an ulcer, or hematoma of the gastric wall) in which the patient was completely relieved by taking linseed oil. He suffered from sharp gastric pain and vomiting, and presented all the symptoms of dilatation; lavage had done but little good. On the advice of a friend he began to take a wineglassful of oil morning and evening, after eating. He improved uninterruptedly, the vomiting ceased, and after five weeks of this treatment he was completely cured, and able to dispense with the oil except after a specially heavy meal. Cohnheim assumes that the oil facilitates the passage of the food into the duodenum by lubricating the mucous surfaces, and also lessens the irritation of the pylorus, to which its spasmodic contraction is due. He now advises trying similar treatment before resorting to operation in such cases.